RadioSporting

Monthly Magazine for Competitive and Active HAMs

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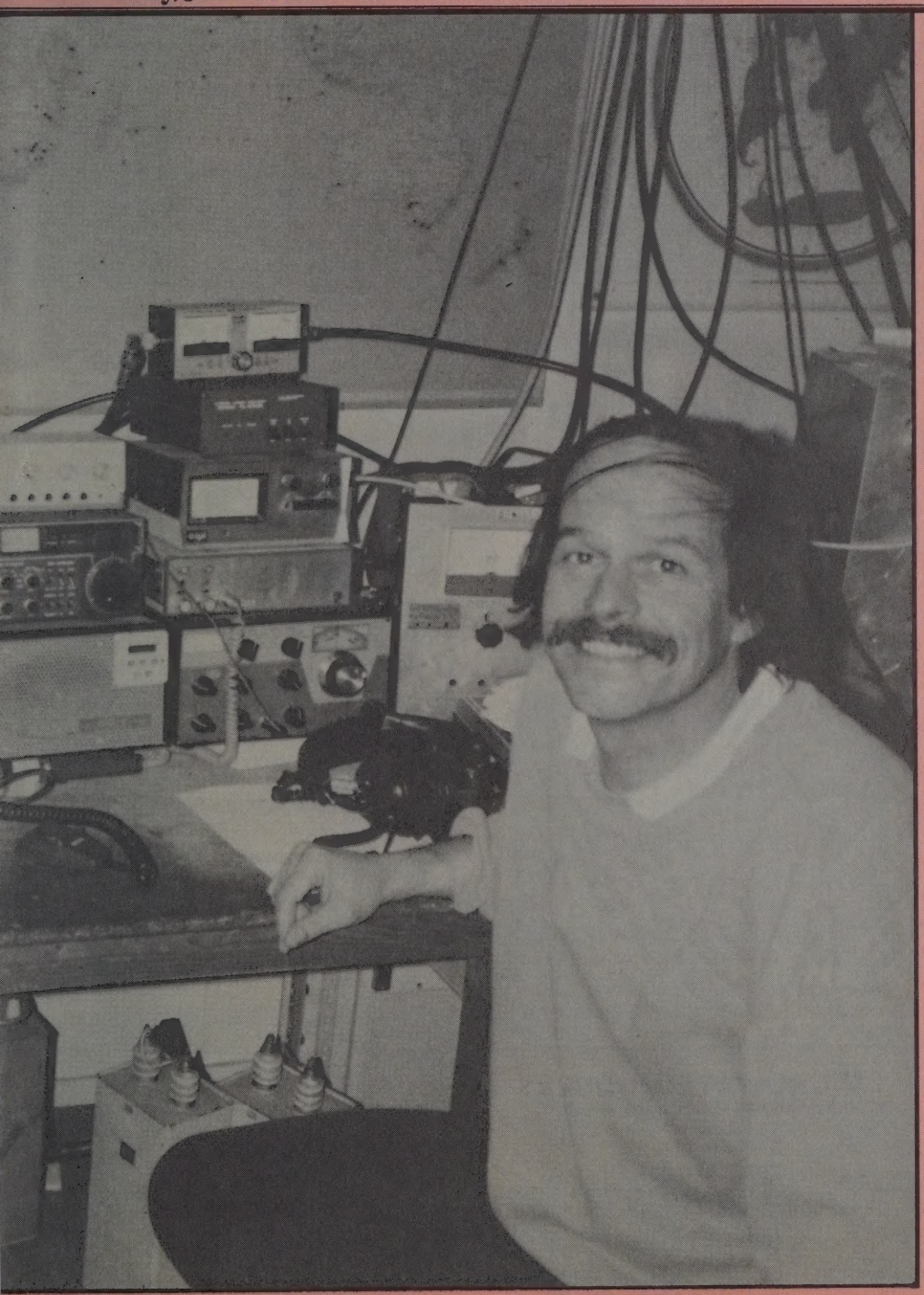

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IN THIS ISSUE:

Willem Morsink, PAØHIP
WØZV 9

Results 1987 WRC Contest
W3FG, VE3BMV 10

Morokulien LG5LG, SJ9WL
LA4YW 14

5AØA - On the Air From Libya
VP2ML 15

HF Packet or CW?
K4ZN 16

Earth Currents and Geomag Field
M. Mideke 18

Gerry Matis, W3GM
K3ND 21

The Dragonfly Antenna
G4FDC 22

The Pope's Visit
K4ZN 23

Michael Jackson Becomes Ham?
ABØX 25

Radio - Thirties style
H5AI 26

1987 high claimed CQ WW SSB . 27

Departments:

Mailbox 4
VE3BMV Radiotorial 5
N2SS DX News 6
QSL Routes 7
QSN 8
W2XQ SWL Corner 28
KA3B 6 m Corner 30
K4ZN Traffic, Emergency 32
W4GF FCC News 34
W1WY Contest Rules 36

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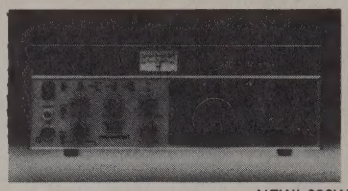

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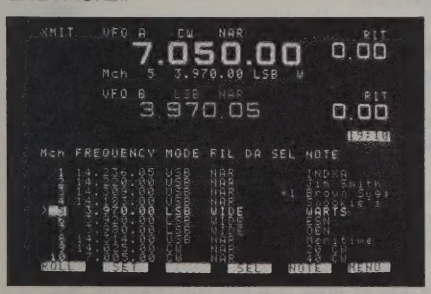

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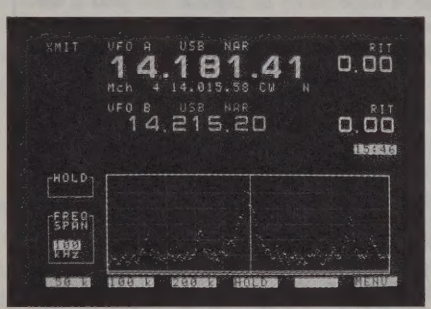

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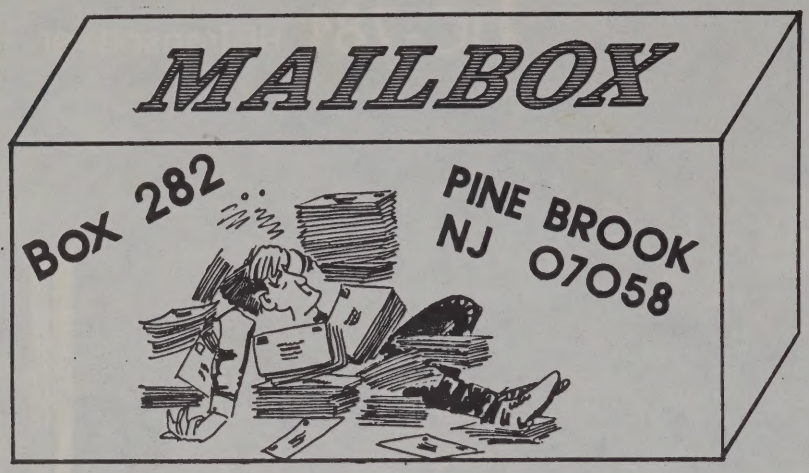

Dear Yuri,

I've been enjoying Radiosporting since you've started publishing, and it keeps getting better! Unfortunately you seem to have gotten embroiled in some controversies in the last year, but I hope that's all over with now.

One thing I find constant irritant in all the ham magazines, and which ranks right alongside being called a CBer (I get violent!) is the penchant for calling everything under the sun "realtime." Pete Smith, N4ZR, wrote a fine article about a TIME-OF-DAY-CLOCK routine. Nowhere did he use the term realtime, apparently because he knows what that term means. Unfortunately you've followed the path of the Micro-minds and Basic-Bozos and captioned the article with "The Real-Time Clock..."

The term REALTIME applies to a specific type of system that MUST RESPOND TO AN EXTERNAL STIMULUS (EVENT) AS IT OCCURS, WITH NO CHANCE TO REPEAT THE EVENT. While it is true that the clock routine must access an interrupt driven clock (which IS real-time), the clock routine itself is just that - a clock routine. Likewise, logging and other ON-LINE software is often referred to in the ham magazines as realtime. Clearly, when a human being (or Contester for that matter) is typing at a keyboard IT ISN'T REALTIME!

Maybe I'm oversensitive to this misuse of computer terminology, but I've been a realtimer for more than 22 years, and it has become a "religious issue." Thanks for letting me blow off steam on the subject... maybe this will help to keep the ham magazines from getting even sillier in their misuse of terminology.

73, Tom Geiger, W2KVA/6

Dear Tom,

It's OK to blow off steam on our pages. I'm realtimy innocent this time, I just reformatted what N4ZR sent. Looking in my cheap dictionary I found under real time - 1. the actual time elapsed in the performance of a computation by a computer, the result of the computation being required for the continuation of a physical process. 2. in real time - at once, instantaneously.

You admit that clock is a real time clock (which Pete said in his title). What is wrong in calling the system real-time when it uses computer clock (which is real time), reads the transceiver's frequency, accepts the operator's input, saves the data and prints the line on the printer. With good duping program, this event has no chance of repeating itself. I have heard about many cases when a logging program bombed out, lost all data on the disk half way through the contest. Poor operator could not retrieve a single callsign (event), it was all lost in the real-time and forever. (There are some utility programs that could restore erased/damaged files now.)

ON-LINE relates to "directly connected with the main computer." So I think this fits less than REAL-TIME. Most of us use personal computers that are not connected to any mother-computer.

Maybe we should call it GMT-time (or Zulu, or UTC)!

73 de Yuri

Yuri,

Your Radiosporting magazine is fantastic. I was pleased to receive back issues, the articles are very interesting and excellent. Thanks to Radiosporting now I know how ON4UN looks. I wish you can publish this magazine as long as you can. It is the best magazine in the world for the active radioamateur. Can't wait for another issue. I hope to be in Dayton this year if all works out well. I hope to meet many friends from all over the world.

73, Jurek, SP3BQD

Dear Radiosporting,

Your magazine appears to have the kind of information I have always looked for in a magazine. I got my ticket in mid 70s, but had a postage stamp lot. In 1979 I moved to a farm in Indiana from Connecticut. I haven't been on the air yet, too busy building the house. The Dayton Hamfest (my first) has truly given me a new and wonderful view of Ham Radio - I've always wanted to work DX and now I want to contest too! I think your magazine will be a great encourager and support to experience and learn what is best for my location. I have read "publications" for quite a while to plan for my shack - but it is amazing what someone's comments from experience can do to put meaning to all that theory.

For the past 5 years I've had so many irons in the fire. I was getting nothing done. For a few months now I've realized (with heavy job in computer systems) that I need one hobby. The weekend at the Dayton Hamvention I finalized my decision that Ham Radio will be my #1 pursuit. I haven't felt so excited as I did for years as I watched the films in the Contest Forum. So rather than looking at the hamfest as a way to get rid of my gear, its Good Bye - Hunting, Archery, Flying, model airplanes, hobby farming, motorcycles, skiing, camping, bowling, etc. The XYL is already KA9NXD - we need to work on Jenifer (8) and David (7) next.

73, Bill Cook, N9FBR

Dear Yuri,

Glad to see Radiosporting again in print. I have missed it for the past few months.

A couple of points I wanted to bring to your attention. First, in the Can-Am (WRC ?) contest, the high power section shows 1000 watts output as being the limit. What about Canadians who are allowed 2250 watts PEP output?

Secondly, certificates for section winners in various contests should receive these certificates more promptly. Many certificates are not received until 1 or 2 years after contest results appear in print. While not an important thing, it can be discouraging.

Lastly, it is very strange how many DXpeditioners can write an article and have it appear in print many months before their QSL cards ever appear. It seems that this problem is getting worse as time goes on. There is no reason why it takes a year or more to get cards out. If they don't want the work entailed in QSLing, they should damn well stay home.

Also I think contests should be more closely monitored for stations operating out of the band or right on band edges where their sidebands are readily apparent below the limit. Examples, US stations screaming "listen up" below 14150 and between 7050 and 7100. It seems to be very prevalent for some of the so called big gun contesters to park on 14150.5 for hours on end. The way I interpret the rules, this should result in disqualification but you never hear of this. It is appalling the number of US stations who openly work me in contests when I am operating below the american portions of the bands.

Just some points that I thought should be mentioned and I hope they are taken in a constructive manner.

Bill Richardson, VY1CW

Dear Bill,

We are glad to be back and we are sorry for another interruption, hopefully the last one.

The 1000 watt limit was chosen to include high power category in most countries. It means output power on CW and 2000 W PEP output power on SSB. This is still close to 2250 permitted in Canada. We figured that we set the limit for the contest, in order to allow more fair competition.

We are a big sinner with certificates, the delay was in waiting for the Ventura and the LaserJet II to make them the nicest looking certificates around. With problems we encountered there, is a delay, but they will be all out very soon.

The station on USB parked on 14150.5 is perfectly legal as long as his signal is a clean upper sideband, those "listen ups" are way out of limit.

Nice to hear from the rare one way up there and we hope that you will enjoy the next sunspot cycle Bill!

73, Yuri

Radiotorial

W2/VE3BMV
Yuri Blanarovich
Editor/Publisher
Radiosporting Magazine

We are back, again!

This probably sounds like a broken record, but the truth is that I sincerely hope this is our last gap in the Radiosporting publishing schedule. Our last issue was labeled October/November 1987 and there were no issues since, until this one. We are again extending everybody's subscription by five issues. The last extension included one (expected) month more than should have been. For example those who were due to expire in 8712, had on their label 8801, now it should read 8806 and it would mean that it is time to renew.

Our problems with the delay in the production of Radiosporting stem from our move from Toronto and an effort of establishing a livelihood in this great land of opportunity. Keeping the family together and taking care of living expenses come before ham radio and other activities. Radiosporting still can't feed even a QRPer on welfare, and I could not "steal" the needed 10 of 18 hour working days needed to produce the magazine. Therefore, I was forced to skip a few more issues.

My expectations and planning was severely impacted by how things work in this human ZOO - the glorious Big Apple, New York City. The worst is now over (wishful thinking?). We have more or less organized our business affairs and are slowly getting back to a "normal life" as a family, and putting out the magazine every month. I am looking forward to those days, when I will be able to get back to an 8 to 10 hour working day and spend more time with my radio. I miss those contest pileups!

Thank you all for your eternal patience and I hope to make up to you with a rapidly improving magazine. We have the tools, we have the resources of experienced writers and contributors. Our goal is to give you a publication that will be interesting, fast, educational and above all - enjoyable. So please stay tuned. We have many interesting things coming up.

Nicola Tesla

was one of the greatest geniuses that ever lived. His contribution to mankind is seen everywhere today. His recognition is far from what it should be. Nicola came to the conclusion that a genius becomes appreciated and famous after he dies. He usually is so far ahead of his peers that they have a difficult time understanding him, and often ridicule him. Tesla's trademark was that he had a tremendous visual memory and carried most of his designs in his head. For this reason much of his work is, unfortunately lost with him. There are some notes scattered around, but just a few of his ideas are published. We would like to collect and publish some stories on Tesla. Lets face it. He was probably the first ham transmitting not only signals but also big power over the air. If anyone has anything on Tesla or his inventions, please let me know. Lets save what we can. Any material in any language would be greatly appreciated.

It is important to preserve and chronicle the events as they happen. Quite often we do not appreciate the events we are witnessing. Some years later they prove to be the important breakthroughs and credit should go to those who conceived them. Our amateur radio press has a lot to improve in the area of recognizing contributions of those dedicated individuals. With technical subjects, the problem is that the person is sometimes a good writer, but not much of an engineer, or vice versa. The result is: a nice story about nothing, or a poor description of a remarkable event. The technical individuals are usually hard working, modest.

We at Radiosporting would like to plug this gap. We are attracting individuals who know the stuff and understand their subject. They can recognize a good thing when they see it. If you have an idea or a project that is new and interesting, please let us know. We are happy to help when we can.

Sunspots are coming!

It appears that this upcoming sunspot cycle might be a big one. Get ready for it, or you might miss the greatest radio fun in history. I vaguely remember the last greatest one in the late fifties. All I know is that, in my first year of being a ham (OK3KGH, 1958), I worked the whole world, 24 hours a day on 10 meters using 10 W AM war surplus German tank radio and a Windom antenna. After a few hours on the radio I was speaking ham radio English and Spanish (OK, QSL via the buro....QRZ?) I could never repeat that feat using kilowatts and beams. If cycle like this happens again, be ready for those super contest scores, for the new records might last for years if not generations.

If what we have seen happening during this last sunspot minimum is any indication of things to come, then, WOW! Bob, KQ2M did what he was hoping for: made over 6000 contacts on CW from Ecuador during the CQ WW CW last year. Some hotshots said that he was crazy because it was impossible. Congratulations Bob!

Looking at the high claimed scores from CQ WW SSB contest we see some fantastic scores. CW4C made over 3 million points on a single band (21 MHz). Where will it all end? The "ultimate" single band record will be made when we can run 400 3-point QSOs per hour, working 250 multipliers, for a total score of over 14 million points. Sounds unreasonable? So did under 10 seconds 100 m dash! We still have a lot of room for improvement.

Now that the worst is over, I am really looking forward to getting back on the air and to work on our magazine. I did some hard physical work in the past few months and, as Tesla did when he was digging ditches, I got some things brewing in my head and would like to share them on the pages of Radiosporting.

Please join our dedicated group, be it as a contributor or "just" as a subscriber.

It is nice to be back. I hope to see you all in Dayton!

73, de Yuri

DX News

N2SS
Tony Gargano
32 Bryant Rd.
Turnersville, NJ 08012

We welcome Tony, N2SS as a new editor of our DX News column. Tony has been a licensed Ham since 1958 (former call W2EHB) and he is an avid DXer and contester. He belongs to the Frankford Radio Club, writes DX Column in the FRC newsletter. He is a member of the ARRL and CQ DX Honor Rolls and is currently in his second term as the Atlantic Division representative to ARRL DX Advisory Committee.

Over the coming months he will be providing you with timely (as timely as a monthly magazine with a publishing deadline can be!) DX information, DX Advisory Committee news and QSL information. Tony will also be covering DX related computer software and other techniques and tips. If you have anything you would like to contribute in those areas, please write directly to Tony at the above address or better yet - reach him via electronic media. (VE3BMV)

Notice the new byline? Welcome back to Radiosporting Magazine and its new DX editor. I am pleased to take over the helm of the DX editorship for RS. I will do my best to present you with an interesting and informative DX column each month. Your inputs, of course, will help to make it even better. If you have any news regarding DXpeditions, QSL information, operating times and frequencies for those rare ones or any other contributions of information or items of interest for your fellow DXers, I would like to hear from you. Also, if you have any suggestions, recommendations or criticisms you would like to make concerning the column, these kinds of inputs will help me to reflect in the column what you, its readership, would like to see in it. My address is: 32 Bryant Road, Turnersville, NJ 08012. You can also reach me via MCI Mail, ID 310-5258, on packet via WB2MNF or via the excellent Ham/SWL Pinelands telephone BBS (609) 859-1910.

DXAC NEWS

By a vote of 15-0, country status for Western Sahara, SØ, (the formal name is the Arab Democratic Saharaui Republic) was recommended to the ARRL Awards Committee. The vote was 15-0. Also, in a secondary issue the vote was 10-5 in favor of country status commencing from the proclamation date of independence; i.e., not a continuation of Rio de Oro.

On February 12 the Awards Committee issued a news release stating that by a unanimous 7-0 vote, it has accepted the DXAC's recommendation to add Western Sahara (SØ to the ARRL DXCC Countries List. They stated further, however, that whether it is to be considered a brand new listing or a reactivation of the deleted Rio De Oro was left to be resolved by further consultation with the DXAC. On March 4 another news release was issued, this time stating that Western Sahara will be a reactivation of the deleted Rio de Oro. So, if you already have Rio de Oro, SØ will not be a new one for you. If you do not, you must wait until June 1, 1988 before submitting cards for credit.

SPECIAL NOTE: be sure to count SØ as a multiplier for the recent ARRL DX CW and Phone contests.

In recent communications with Atlantic Division Director Hugh Turnbull, he has requested responsible inputs on two issues of major importance to DXers. The first is opening up 7050-7100 kHz for phone privileges by U. S. amateurs. The second is a band plan for 160 Meters. Give these matters some thought and share your views with Hugh and your own Division Director.

The DXAC has been asked to revisit the Okino Torishima situation. What do you think? Should it be "undeleted"?

3Y - Bouvet

SM7DSE had hoped to activate 3YØFP during a planned early March stopover for a change of batteries at the unattended weather station on Bouvet. He didn't make it and neither did the battery changeout crew. Seems rough seas and fog precluded the helicopter trip from shipboard. Presumably, the batteries still need to be changed, so perhaps there is hope yet!

5U - Niger Republic

check the W7PHO Net on 14.227 MHz or the ET Net on 14.160 MHz for TU4BR/5U7. The QSL manager is KN4F.

5X5GK - Uganda

Gerry, 5X5GK had to leave Uganda in a hurrrry, after a short jail stay.

8Q7 - Maldives

Bob, DA2ER plans to operate from Maldives April 19 - May 11. No callsign assigned yet. QSL via W8IMZ.

A6 - United Arab Emirates

A61AB has fired up his new beam and amplifier and is active on 14.240 MHz at 1500-1800Z. QSL to OE6EEG.

A15 - Abu Ail

if you worked the surprise Abu Ail dxpedition last month, the QSL routes are as follows: A15AA via DJ6SI, A15AB via DL8CM, A15AC via DJ6JC.

ATØ- India

ATØNRO was a special event call sign from the Hyderabad Radio Convention. QSL to VU2APR.

BTØLS and BTØZMS

are located on Mt. Everest and in Lhasa and are active on Wednesdays and Sundays at 0000 or 1200Z on 14180 or 14280.

BY1QH - China

Mike, NS7Z is in China and gets on as much as he can, especially from BY1QH on 40 m CW. QSL to his home call.

EP - Iran

EP2MQN has reportedly been worked at 1500Z on 14.224 MHz. QSL to Box 14155, 1941 Teheran, Iran.

FT/Z - Amsterdam & St. Paul

160 Meters - FT5ZB is putting up a new vertical. Watch 1827 kHz during his sunrise.

Armada 400 - GB4OOA

Plymouth Radio Club has obtained special callsign GB4OOA for use during the month of July 1988 in celebration of the 400th Anniversary of the routing of the Spanish Armada by Sir Francis Drake. City council of Plymouth is preparing month long program of commemorative events in cooperation with many of the Plymouths worldwide, about 38 of them. Very rare QSL card will be available for contacts made with GB4OOA in the period of July 21 - 28.

IAØPS - Antarctica

Italian Antarctic station is active around 14295.

J5 - Guinea-Bissau

K8MN has been extremely active as J52US. See the QSN section for some times and frequencies. Note: although there are no listings from the locals in the QSN section for 160 Meters, he has been worked on the East Coast on Top Band. Check 1828 kHz around midnight Zulu. I am told he has a distinctive (chirpy?) CW signal. QSL to WA8JOC.

KC6 - Eastern Carolines

Three Japanes DXers wiil operate from Ponape Isl. May 27 - June 5 including WPX CW contest. Call will be KC6DX or JA7AB/KC6. QSL via JA7AGO.

KC6 - Belau

KC6MA has been worked on 14.205 MHz at 1230Z. A little while later move up the band to 14.226 MHz for KC6HA at 0100Z.

KH5 - Kingman Reef

look for a planned 7 member DXpedition signing K9AJ/KH5 from Kingman starting about April 13. They will operate for 7 days and then go on to.....

KH5 - Palmyra

.....where they will sign as WØRLX/KH5 for another 7 days. WA2MOE will have his hands full handling the QSLs for both DXpeditions.

LU/Z - South Orkneys

LU5EAS is now the operator at LU1ZA. He also sometimes signs as LU5EAS/Z. QSLs for the former go via LU2CN while those for the latter should be sent to LU5DNH. The where and when is 14.243 MHz at 0330-0530Z.

Check our DXCA Award!

SØ - Western Sahara

our latest new country, in the person of SØRASD has been active on 21.014 at 1500-1530Z.

S79 - Seychelles

W2PN will be signing S79WHW on 160 Meters through April 5. He will be on 1827 kHz listening up. QSL to WA2NQL.

S9 - Sao Tome

Erik, SMØAGD and Thor, LA7XB will operate /S9 May 3 - 18, 160 - 10 m with special effort on lowa bands and CW. QSL LA7XB/S9 to Box 440, 3700 Skein, Norway and SMØAGD/S9 to Ormbergsv. 17., 19300 Sigtuna, Sweden (not CB addr.)

SX1RAAG - Greece

will be on through the end June in commemoration of the 30 anniversary of the Greek radio Assn.

SY - Mt. Athos

the DXCC Desk has now placed its imprimatur on the recent Mt. Athos dxpedition by the following: SV2RE/SY, SV2UA/SY, SV2UF/SY, SV2WT/SY, SV2QO/SY and ST2TX/SY.

TN - Congo

Tom, N4WW is trying to get the license for Congo. If things work out, he should be on with 9Q5DA from Friday evenings till mid Sundays. On CW look 25 kHz from the band edge, listening up, on SSB watch 7043, 14145, 14180, 21250 and 28495, all split. QSL via AL7EL, cards via bureau should be sent to his home address of N4NW.

TPØCE - Council Of Europe

will be the call used June 24 - 26, QSL CW contacts to F6EYS, SSB to F6FQK.

VK9 - Cocos-Keeling

VK9YA has been worked on 14.025 MHz at 1300Z. QSL to W5ODD.

VK9YT by W7SW will be on all bands SSB/CW April 12 - May 3.

VP8 - South Georgia

it is reported that the on-again off-again Dxpedition by VP8BPZ is now off again.

VP8 - South Orkneys

VP8BNC has been worked at 0030Z on 14.210 MHz. He will be there through June.

VU4 - Andamans & Nicobar

VU2RBI and company are threatening to activate Nicobar at any time.

XE2HUM/XF4 - Revilla Gigedo

Skip, N6OND is now on from Clarion Island which is about 200 miles from Socorro, the main island in the group. His research project is to last for six months. He uses TS-440 with solar powered batteries, mostlu on CW 14026 around 0000Z. QSL via W6RQ, cards will be answered when he returns home.

XX9 - Macao

by the time you are reading this VS6CT will have been active as XX9CT. QSLs go to KA6V.

Y88 - Antarctica

Y24LN will be signing Y88POL to help pass the time during his one year tour of duty at Antarctica. He expects to be active from mid-March on.

(TNX QRZ DX, The DX Bulletin, FRC)

SWODXA Third Annual Dayton DX Dinner

The SouthWest Ohio DX Assn will be hosting it's DX Dinner during the Hamvention weekend at Stouffers Dayton Plaza Hotel on Friday, April 29, 1988. Displays/cash bar at 6:30 PM; dinner at 7:00 PM. Many hospitality suites are open on both Friday and Saturday nights. Keynote speaker this year will be Marti Laine, OH2BH. Marti is expected to talk about his recent SØRASD experiences. In past years they had Bob Locher, W9KNI; Yuri Blanarovich, VE3BMV; Lee Wical, KH6BZF; and Ellen White, W1YL at the speaker's platform. Master of Ceremonies will be Jay Slough, K4ZLE. Cost for the Banquet is #20.00 per person. Tickets must be ordered and paid for in advance. Send SASE along with your check or money order payable to SWODXA to: Jay Slough, K4ZLE, 8183 Woodward Dr., West Chester, OH 45069

National Capitol DX Association

The NCDXA announces its new officers for 1988: President - Ken Miller, K6IR, VP - Thomas Hutchinson, W4PBC, Secretary - Craig Stevens, KZ3H and Treasurer - Henry Herman, W3UJ. NCDXA has over 75 active members and is dedicated to furthering the pursuits of DX enthusiasts.

Virginia DX Century Club

The following are the new officers of VDXCC: President - Charlie Keil, AA4CK, VP - Art Westmont, W4EEU, Secretary treasurer - Carol Shrader, WI4K.

1988 Polar Bridge Diploma

Attractive, oversize commemorative diploma will be awarded to amateurs and SWLs who fulfill the following requirements: 3 different calls from NWT (VE8), 3 different calls from Asiatic USSR (UA9 or UAØ), 1 base camp station from Canada (CI8C) or USSR, 1 station from national capital region of Ottawa, 1 station from national capital region of Moscow a total of 9 contacts or SWL loggings. All contacts must be made bertween February 15 and June 15, 1988. Send your application, certified log data (no QSLs needed), 10 IRCs or $5 to CRRL National Awards Manager, Garry Hammond, VE3XN/VE8XN, 5 McLaren Ave., Listowel, ON N4W 3K1, Canada

CI8 - NWT, Canada

The Department of Communications of Canada has authorized the use of the special prefix CI8 for Northwest Territories to use on an optional basis between February 15 and June 15, 1988. During the same period the special call CI8C will be used by the Ski Expedition Base Camp at Resolute Bay, NWT.

YASME REPORT

We have been trying to travel in various countries of the world from October to April. This last 6 months, we were in Mexico - XE2GKG, Nepal - 9N5QL, Bangladesh, Bhutan, Burma, Sri Lanka - W6KG/4S7, and Indonesia - YBØAQL. We stayed for several weeks in each of these countries, and operated ham radio in each country that would permit it. We tried everything that we could think of to obtain licenses in S2, A5 and XZ, but we were unable to. We did our best to leave these countries with a favorable impressions of ourselves and amateur radio. The best thing that we can report is that all three countries did not come right out and refuse us licenses. They all said that maybe, at some future sate, they would comply with our request. We will try to keep after them and perhaps we can return some day and operate.

Our most recent operation was from Indonesia, as YBØAQL. We stayed at the QTH of Wan, YBØSY. He is a leading DXer and has a large monoband beams for all bands. We used his antennas and our equipment making nearly 8000 QSOs with hams in 133 countries.

We hope to meet all of you in person at Dayton Hamvention. 73 & 88,

Lloyd Colvin, W6KG; Iris Colvin, W6QL

QSL Routes

3B8FP via	KN2N
4U42UN	NA2K
5Z4SS	JA1ODC
A15AA	DJ6SI
A15AB	DL8CM
A15AC	DJ6JC
A22RB	KA3BYY
ATØNRO	VU2APR
AY7DXT	LU5EK
AZ4F	LU1FM
BVØRY	JG1RVN
CW2B	CW4BBH
CW4C	CX4CR
CW5A	CX5AO
CW8B	CX5BBH
EDØBAE	EA4YW
FY5YE	W5JLU
FJ0A	F6AJA
FM5FA	AJ3H
HC8DX	K6VNX
HD8G	KT1N
HH2MC	KB4IT
HL9MM	KA6V
J28EO	F6FYD
J52US	WA8JOC
J88BK	WN5K
JW5E	LA5NM
KH2F/KH4	N2AU
KH2ØØJHM	KH6BZF
KQ2ØØN	KQ1N
LZ9A	LZ1KDP
N2ØØRR	N5RR
NS2ØØN	KA8JJN
OD5VT	HB9CRV

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QSN

As heard on US East Coast
(Frequency kHz, Call, Time UTC)

1831	4X4NJ	0409
1833	9H1CG	2240
1845	AL7C	0727
1839	CP8HD	0409
1843	D44BC	0521
1832	EA8QO	0750
1833	GD4BEG	0721
1832	GMOGSG	0718
1826	GM3WTA	0114
1844	GU2FRO	0800
1831	HB9BCI	2242
1836	HG9R	0423
1833	I2VXJ	2252
1832	IK1LAL	2335
1833	J34LTA	0419
1827	J52US	2356
1840	J73LC	0424
1833	K2SG/NP1	0331
1828	K5HK/KP2	0336
1829	K5HK/VP2V	0349
1833	KH6AT	1019
1827	KL7Y	0656
1831	KX6DC	1107
1832	LU5HJD	0142
1828	LZ1KDP	0327
1835	LZ1XL	0018
1831	LZ2DF	2328
1831	LZ2KLW	0043
1827	LZ2XL	0309
1840	N2EDF/NP1	0543
1830	OE5JDL	0321
1835	OE6MKG	0448
1827	OH1XX	2339
1827	OK1ATP	2356
1829	OK1DQT	0348
1827	OK1MG	2332
1834	OK1RR	0024
1834	OK3CWX	0208
1832	OK3KFF	0249
1827	OKIATP	2356
1831	ON4UN	0400
1833	OX3CS	0043
1832	OZ3Y	2304
1833	P4OGD	0024
1831	PAOLOU	0258
1832	PA3AXU/SU	0008
1835	PA3EKK	0007
1828	PT7BZ	0139
1832	PYOFC	0309
1832	PYOFZ	0404
1831	PY2DP	0830
1835	RA3DOX	0332
1830	RA6AUV	0108
1833	RB5CU	0224
1834	RB5ZB	0110
1832	SM7ALC	0025
1831	SP5GH	0058
1833	UA9FAR	0325
1833	UB3IWA	0027
1832	UB4MBC	0347
1833	UC2CFZ	0150
1831	UD6DC	0205
1834	UF7FWA	0251
1835	UO5ON	0312
1838	UP1BYL	0008
1834	UQ2GP	0246
1832	UQ2PZ	0210
1834	UR2RGN	0338
1837	UZ3AYT	0313
1836	UZ4FWO	0320
1835	V31TP	0413
1831	VK3IM	1141
1832	VK3IO	1141
1833	VK5KL	1155
1840	VP2E/W2GBX	0438
1840	VP2VA	0439
1832	VP2VM	0036
1836	VP9BO	0328
1824	VS6DO	1204
1834	Y33UL	0222
1836	YN3EO	0650
1832	YO3CD	2221
1831	YU4BR	0006
1831	YV1OB	0337
1833	ZL2ANR	0743
1824	ZL3GQ	1153
1830	ZL9BQD	1221
1828	ZS5LB	0326
3799	3A2EE	0438
3507	3B8CF	0222
3506	4KOE	1138
3794	5B40A	0041
3502	5H1HK	0151
3502	7P8DX	0316
3507	8R1J	0245
3797	8R1RPN	0936
3502	AH2/DL1VU	1128
3790	AH6HB	0807
3505	CM2AX	1217
3794	EA9IE	0746
3800	FG7BG	0240
3795	FOOAQ	1040
3505	FY4EE	0232
3787	FY5EM	0750
3503	GI3IVJ/CT3	0758
3502	GI4BBV	0803
3795	HKOHEU	0031
3504	HK5AJF	0121
3793	I4AVG	0131
3505	J52US	0025
3790	J73LC	0308
3798	J88BK	0205
3501	JA1CGM	0929
3798	JA1FRE	1217
3504	JA1HQT	1142
3501	JA3AQ/4	1215
3504	JA4ESR	1228
3506	JA5DQH	1231
3798	JA6IEF	1153
3800	JH1JPS	0848
3511	JH7JCJ	1214
3791	JW7FD	1127
3788	JW8FG	2216
3788	JY9LC	0322
3505	K2BMI/VP2V	2259
3503	K2SG/NP1	0139
3764	K5ZD/3	0314
3501	KH2F	1226
3797	KH6JEB/KH7	0828
3798	KL7KJ	1136
3506	KX6/DL1VU	0938
3799	N2EDF/NP1	0419
3509	OA4JR	0522
3503	OK3CBU	2308
3503	OX3KD	1139
3789	OX3SG	1127
3504	P29PL	1205
3720	P4OGD	0420
3510	PA1AV	0741
3504	PJ2/W1BIH	0053
3502	PYOFC	0444
3505	PYOFZ	0115
3790	PYOFZ	0344
3507	PZ1DV	0207
3503	RAOFA	1147
3784	SP3GEM	0436
3790	T32BG	0835
3797	T77V	0108
3505	UAOFM	1222
3506	UB5IFN	0241
3502	UB5JAR	0025
3501	UB5UAT	2347
3508	UC1AWW	0244
3500	UD6DC	0329
3503	UD6DKZ	0417
3510	UO5OR	0323
3792	V47NXX	0305
3798	VK2SP	1137
3797	VK4BJD	1144
3503	VK4PN	1216
3795	VK6LK	1159
3502	VK6WJ	1135
3502	VK9LM	1231
3795	VK9NS	1121
3505	VP2E/N6RA	1041
3795	VP2E/W2GBX	0215
3797	VP2VM	0137
3789	WY5L/KH3	1200
3504	XF1C	0936
3790	YN3EO	0241
3505	ZLOAFZ/9	0842
3799	ZL1AZY	0834
3798	ZL3AFT	1055
3508	ZL4IE	0737
3809	ZL9AMO	0932
3504	ZL9BQD	1205
3791	ZS1MH	0406
3507	ZS6KT	0335
7003	3B8DA	0307
7006	3B8DB/E	0242
7001	4K1J	0108
7008	4S7RO	1226
7003	4S7WP	0101
7017	4U1UN	0047
7007	4X6VH	2213
7002	7J1ACO	1228
7005	8P9EK	0101
7006	8R1J	0242
7007	9Y4VU	0340
7003	A15AA	2357
7001	CEOZIG	0343
7007	CE6NOT	0001
7002	CN2AQ	2355
7010	DF1DN/EA8	2315
7005	DL1JW/YS	0124
7004	EA8RL	0935
7005	FM5WH	1112
7009	FOOAQ	1040
7011	FY4EE	0043
7012	HC5AI/3	0935
7005	J34LTA	0126
7005	J34PJ	0411
7002	J73A	0400
7001	J79JC	0030
7006	JA7WME	1128
7003	JR1LBN	1140
7004	K2BMI/VP2V	2259
7005	K2SG/NP1	0055
7088	N2EDF/NP1	1252
7006	N2GS/KP1	2359
7007	OA4JF	0420
7002	OE5CA/5B4	2121
7010	OH6XY/4U	0056
7004	OX3KD	0309
7008	PJ2/W1RM	0059
7001	PYOFC	0050
7004	PYOFZ	0041
7006	PZ1DV	0220
7004	RAOFA	1249
7024	SORASD	0057
7004	SVOFE	0102
7001	T32ZK	1035
7002	TA1A	2343
7007	TA4A	0136
7001	U5XX	0210
7011	UAOAZM	1147
7004	UAOFDX	1215
7005	UA9YC	0153
7006	UC2LBX	2348
7002	UD6DKW	0204
7004	UF6FAL	0235
7007	UF6FJ	2251
14198	VU2XX	1357
14012	W6KG/4S7	1205
14006	YBOBRT	0006
14017	YB2BNJ	2311
14165	YB3CN	1308
14199	YS1GMV	2237
14175	ZD7JD	1222
14027	ZL9AMO	0419
14026	ZL9AMO	0407
21348	3D6AN	1858
21287	5H3BH	1855
21251	7P8DP	1956
21030	9J2AL	1925
21027	9J2BO	2116
21291	9J2JV	1856
21025	9Q5DA	2122
21249	9Q5NW	1823
21025	A15AA	1341
21290	A25/WA6YOU	1921
21211	CN8EL	1821
21242	D44BC	1941
21030	DL1JW/YS1	2251
21280	EL2BA	1927
21250	FR5EL	1919
21280	FY5EM	1928
21285	HKOHEU	1327
21217	J52US	1323
21025	J73D	2136
21020	JF2VZU	2245
21023	JG6JAV	2248
21016	JO1QUB	2252
21009	JR2BPV	2247
21025	K2SG/NP1	1243
21285	N2EDF/KP1	1550
21271	N4GNR/6Y	1827
21010	N4PW/CE3	1911
21018	NY6M/KH2	2316
21034	OH7NM	1424
21004	SORASD	1410
21004	TA2J	1359
21325	TU2GC	1735
21026	V31GS	2100
21005	V31HE	1554
21019	VK9LM	0001
21024	VK9NS	2315
21001	VU2ZAP	1413
21226	Z21BA	1927
21065	ZF2KN	2119
21002	ZK1XC	1927
21008	ZK1XH	2228
21025	ZLOAFZ/9	2331
21311	ZL1ANJ	1926
21016	ZL2UW	2331
21029	ZL9AMO	2235
21289	ZL9BQD	2346
21210	ZS6ATR	1757
21359	ZS6DN	1829
24939	LU4HA	2209
28024	4X4NJ	1319
28625	5H3RB	1849
28559	6W6JX	1554
28012	9Q5DA	1618
28021	FB1LDX	1340
28014	FG5BM	1656
28474	FM5WD	1812
28443	J6LMV	1753
28513	LU1ABT	2002
28021	LU5DE	1717
28490	N2EDF/NP1	1753
28495	PYOFC	1705
28495	PYOFZ	1423
28010	TI2CCC	1721
28539	TU2QQ	1631
28425	V31TP	1630
28459	VP2BYE	1440
28479	W6EK/HC8	2051
28516	YV5HXW	1557
28022	Z21HN	1320
28504	ZD9BV	1430

A VISIT WITH

WILLEM MORSINK, PAØHIP

Bill Tippett, WØZV

If you've ever worked The Netherlands on 160, chances are it was Willem, PAØHIP. I clearly remember how thrilled I was to work him the first time and have since gotten to know him as one of the "regulars" on 160.

As I drove South from Amsterdam toward Breda, I enjoyed seeing the occasional windmill break up the broad flat expanses of Dutch farms outside the cities and towns. Unfortunately, the rental car I was driving had a defective seat belt and, because I felt naked without it, I tried to concentrate on my driving and the other cars around me rather than the beautiful countryside.

After about one hour at 140 km/hr, I reached the Breda Nord exit on the Autobahn. With absolutely perfect directions from Willem, I drove right to his house without a single wrong turn. Since I was nearly an hour early, I went to a local shopping center to pick up a few things including some European size envelopes for QSLing purposes. I also found a nice bottle of Spaetlese Riesling to enjoy with Willem while we discussed Top Band.

After introducing ourselves, Willem took me on a brief tour outside to photograph his antenna system before darkness settled in. On Top Band, he is currently using two quarter wave slopers running from a 27 meter self-supporting tower. He only has VHF Yagis on the tower at the moment because a storm had destroyed his tribander previously. One of the slopers is toward the Southeast and the other is pointed West. The Western sloper is not fully extended because of the size of his lot with the bottom bent back toward the tower.

QTH of Willem, PAØHIP in the middle of residential area. His 27 m high tower supports two 160m half slopers and some VHF antennas.

I was quite surprised to learn that Willem does not have any separate receiving antennas but they are out of the question due to the many houses in his neighborhood. Although he does occasionally have some noise problems, he apparently has an outstanding filter between his ears! After the brief tour we went inside and, after meeting his wife and son, began to discuss our favorite band.

Willem first became interested in 160 when he heard W1HT (then W1HGT) and PY1RO as an 8 year old SWL. He is now 40 and has been licensed since 1973. Willem observed that many of the dedicated low band DXers like G3SZA and ON4UN seem to be about the same age--in their early 40's. He has been on 160 since 1973 and had DXCC 196/189 at the time of my visit in late March 87. Willem has WAZ 39/39 and 45 states toward WAS. He still needs Nebraska, Oregon, Nevada, Utah and Wyoming if any of you readers can help him out this season. He is looking for Zone 26 (as is G3SZA) to complete his 160 WAZ (which explains why one of his slopers is aimed toward Zone 26!).

We went upstairs to his shack and had a quick listen on the band. It was about 1900 UTC and Willem said conditions weren't particularly good but I was thrilled to hear a UL7 working a UB5 (rare stuff from Colorado).

Willem's equipment consists of a Drake C-line with a Sherwood 1st IF CW filter. He also uses an active antenna tuner with a pair of 3-500z's to keep the shack warm. He had a nice computer set-up (an Atari Amiga I believe) and had done some very nice software for sunrise/sunset greylines using the excellent bit-mapped graphics of the computer. Willem also showed me a weather FAX receiving set-up and we could see the current satellite weather map over Northern Europe. He felt the had seen some correlation between 160 propagation and frontal weather zones. This is not the first time I've heard of such a phenomena (W7TJ has observed the same), and it would be interesting to know if anyone has done any research on this. Personally, I often look at the weather maps to give me an idea of where the ever present QRN is coming from!

We continued to discuss some of the strange propagation anomalies on 160, such as the very selective openings, until it was time for me to head back to Amsterdam. Willem invited me to spend the night on 160, which was very tempting, but I was afraid I would not be in very good form for a sales seminar the next day! I thanked Willem for his hospitality and now I hope you know him a little better. (WØZV)

Second IRSA - Radiosporting World Radio Championship

Walt McGugan, W3FG Yuri Blanarovich, VE3BMV

The second running of our contest is behind us and the results are before you. Those who tried our WRC contest love the rules. What they are missing is the participation of stations they are used to hearing in the other major contests. Nobody expected this contest to be an overnight success. It takes time, publicity and a good track record to build the successful contest. The foundation stone was laid. The rules were devised to give everyone the best chance to compete on a world scale. None of the contests we had up to now allowed a fair comparison of scores across the world.

It seems that just about everybody likes the rules and the distribution of winners proves that you don't have to be in South America or Africa to win. We will take at least another year for any comments and changes to refine the WRC rules before we cast them in stone. If you have any recommendations, please let it be known. We would like to finalize the rules and be able to keep the all time records.

"All" we need now is increased publicity, participation and a finalized date for the contest. I2VXJ suggested that we run this contest in the spring, in the early part of April. This probably would make good time, except that this time of the year is packed with "moving" holidays like Easters (two calendars are used: Julian and Gregorian), Passover, etc. Can we find good a time slot for our WRC? We are bound to collide with somebody. Doesn't matter what date we pick, there is a contest just about on every weekend. Some might seem unimportant to most of contesters, but they are important to somebody. The only solution is to find understanding sponsors of existing contest to work out the solution. We feel that the world needs this type of contest and it would be a tremendous plus if we can anchor the date for it. Please help!

Combined Category

In order to be classified in the Combined category the station must operate the same category and submit logs for both modes. This year the top honors in the Multi Operator - Single Transmitter category go to station OF1AF, operated by OH1EH, OH1NOA and OH1NSJ. Our Finish friends win the IRSA Trophy for having the highest score in the contest having won the CW part and coming second on phone. The second place was taken by the LZ9A team of LZ2DF, 2TI, 2HE.

The Single Operator - All Band combined category was won by Richard Neuman, K3IPK with a new world record and he gets the Computeradio Trophy. The second place was won by Giorgio Beretta, I2VXJ who wins K3EST European Champion Trophy with a new European record score. The Little Pistol Trophy sponsored by Paula Franke,WB9TBU goes to W2JEK, the highest scoring QRP in all band category.

The highest score on single band was produced by Bob Patten, N4BP on 21 MHz with a record breaking score and who takes the VE3BMV Trophy. Larry McKay, K5MK wins the K3WW Trophy for having the highest 14 MHz score.

CW

The Multi Op - Single Transmitter highest score was produced by the OF1AF team, beating LZ9A.

The Single Operator - All Band category was won by Richard, K3IPK. The KA7FEF Trophy goes to the runner-up which was OF2BH's station operated by Juha Tuovinen, OH1JT for the second year in a row. The third place was won by OF2AQ operated by OH2BCI. This proves that Europeans can win a Trophy when the rules a fair.

The Single Band category was won by Bob Patten, N4BP on 15 m, ahead of K5MK on 20 and VE3NBE on 15.

The highest scoring Low power station was KA9OKH and the highest scoring QRP station was NL7GP.

Phone

The Multi - Multi category was represented by its sole winner JA9YBA operated by JA9UDA, JH9OAM and JR8GOU.

The Multi - Single Trophy sponsored by the Greater Milwaukee DX Association was again won by the Bulgarian club LZ9A operated by LZ2DF, LZ2TI and LZ2HE. A close second was OF1AF and a third was K3WW.

The highest score of any category was produced by OHØBH, operated by Pasi Luoma Aho, OH6UM, a new record. OH3VV/CT3 takes the second place and I2VXJ the third.

The highest score in the Single Band category was produced by K4XS operating 15 m ahead of N4BP and W3BGN. The N2AU Trophy for the highest 10 m score goes to OF3GD and George Furtado, VE7EIK wins his own trophy for the highest Canadian on a single band.

The remarkable thing is that the OHØBH station won by operating in a low power category. The same goes for OH3VV/CT3. The highest scoring QRP station was ON8WN.

A free one year subscription to Radiosporting goes to the following stations: OF1AF, LZ9A, K3IPK, I2VXJ, YU4EBL, LA4YW, VO1AW, JH4UYB, NL7GP, YB3DD

Thanks for the check logs from: KL7BJV, DL5IJ and LZ2TU.

Congratulations to all winners and thanks to all those who participated. We hope that this contest will grow fast and will become a true world championship where everyone has a fair chance at the title of the king of the hill.

The 1988 run of the Radiosporting WRC Contest will be on October 8 and 9. This year we are adding an SWL category. This is a common category in most European contests and it provides some needed check logs for the log checkers.

Would you like to help our WRC contest? Please spread the news, tell your friends about it, if possible well ahead of time. Also try to get the rules publicized in your national and club publications. We have WRC Contest forms kits available. They include detailed rules, summary sheet, multiplier sheet, log sheet and dupe sheets. Send a dollar or 3 IRC to Radiosporting for your own set. Please make copies and distribute them among your contest friends.

If you feel like rewarding some hard working contesters sponsor a trophy or a subscription to Radiosporting to the winner of your choice. Your name will be immortalized for a good cause.

Thanks again for your support. See you all in full force in this year's running of WRC!

(W3FG + VE3BMV)

Franz Langner, DJ9ZB finished third in the world on phone 10 m.

1988 IRSA - Radiosporting WRC Contest

Phone: Oct. 8 0000 - 2400 Z

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Contest ORM:

KT2D: Where was everyone? Too many contests that weekend -- at least 5 including this one, with same or similar report.

WB2EKK: Not much activity, great 10/15 condx.

WA4SSB: Computer program will just have to get used to me -- 3 contests intermingled makes it ruff!

NL7DU: Fun contest! Sure wish condx would have been better. See you next year.

NL7GP: 90% of QSOs made in first 2 hours. 15 and 20 meters only bands open. Fun contest. Thanks N4BP for entertainment on 15 meters - only signal on the band!

KA7FEF: This is the only really fair contest I've ever seen. Hope for more participation out west next year. Condx dropped Sunday PM.

W4WKQ: Hope we get more participation next year. Glad 15 opened some.

JH4UYB: There are few stations participating in this contest. I'd like to work more stations next year. I'm 22 years old and a medical student. I like to work in the contest.

ON8WN: Outstanding conditions. Too bad more US stations weren't in the contest.

DJ9ZB: Good openings on 10 m.

LA4YW: Few stations QRV - rather good conditions - no activity on 28 MHz.

N2BVJ/9: I hope to have a shot at first in my section.

OH8LC: Many thanks - very nice contest.

YB3DD (W7TSQ, op.): Greatest thrill when WA3TUP realized who was calling to give PA QSO Party contact.

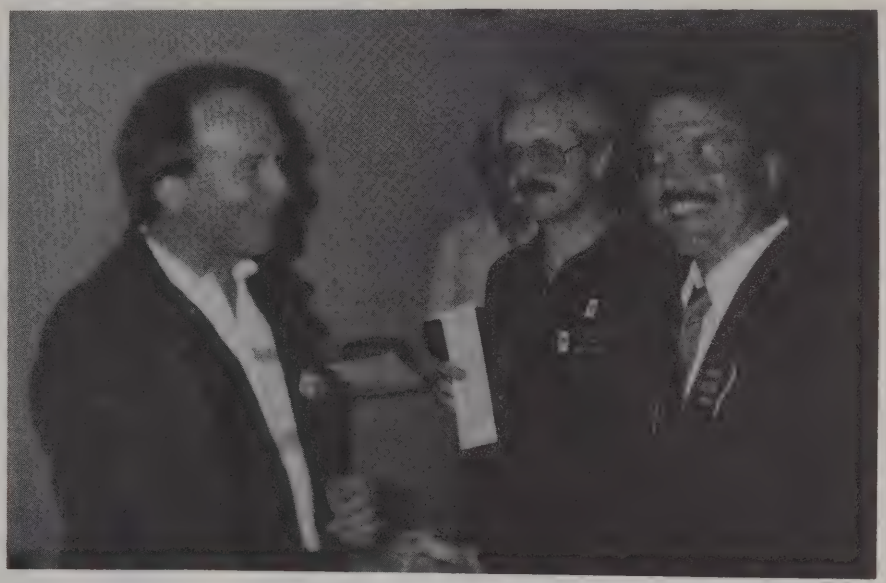
W7FGT: Great new contest format. Good and very fair multipliers, fair power level, but who knew about this contest? Very poor advance notice/advertising/P.R. Very very low participation. Of the DX countries, only JA/VK/ZL seemed to know about contest. USA -- very few participants, whereas the PA QSO party was going great guns! None of the regular hi-speed/super contesters were around? Then there was propagation: The day before good signals on 20/15/10, and the same on late Sunday night/Monday (12 Oct), but the "pitts" during the contest. Mix this brew all together and you have a real bummer! And what a bore, too! I strongly recommend a rethinking of date, and much better publicity, or just cancel all together.

VE7AIK: Where were all the JA'S?

OF3GD: Thank you for the contest. Seems that IRSA contest is still unknown in the Ham world. There were a lot of stations who asked me "What contest?", and when I told them about this contest they told me that they haven't heard anything about it. It will require a lot of PR work before this contest is a big one. Anyway, I liked the contest: good rules for everybody. If I didn't use the special prefix (OF, normal call OH3GD), I never would have made so many contacts.

LA7MFA: Nice test but I was expecting more activity.

KA9OKH: Thank you for holding another FB contest. I must admit activity seemed down a bit but it is now clear that the world is aware of this contest as the multipliers grew sharply this year. Again this year the 15 mtr QSOs led the pack with 40 and 20 close behind. If all goes well with my plans the big high power boys better look out next year.



Is Paul Newberry, N4PN (left) making a bet with Rick Roderick, K5UR about winning the 160 m category in Radiosporting WRC contest? Just ask the witness Bill Barr, N4NX.

N9EAJ: Would like to see more activity on 40.

W2HG: Sorry had to miss Saturday night due to family commitments. Tried Sunday night for 2 hours but could only scare up 1 QSO. See you next year! Thanks for the certificate from last year!

KJ4TI: Very low activity level this year.

VE3NBE: I had a nice run going for about 4 hours and then it just died!

YU7SF: This is my 1,165th contest and 2nd IRSA - SSB.

N0FFZ: Gee-whiz! Most of those W3's (in the "PA" QSO party) would not identify during CQs their party desires! And, their party was very well attended, HI. Received your very nice certificate of 1986 participation. Wish that I could have put in more hours of operating time this year; it seemed to me, however, that entries in "RS" gradually diminished and suspect that "PA" party was a discouraging factor.

VE3FVW: I need a beam for next year.

G3ESF: Activity poor due to VK/ZL CW contest.

I2KYM: Sorry I haven't had time for full operating - wx vy bad - QRN hi - propagation quite good.

W9WAQ: Again, rotten condx. Lack of participants disappointing. Enjoy the contest format - hang in there.

OF1AF: Still no activity in Europe, but good Stateside runs though. You guys sure need more publicity. An example of low band propagation from OH -- running KW + 3el full size yagi on 40m and still no Stateside QSOs.

WA2ASQ: Tks FB contest! More activity this year - keep promoting - this can go!

W6OKX/4: Sure good to hear 10m opening up (not enough action).

Promote and participate in the IRSA - Radiosporting 1988 WRC Contest!

"The world's fairest contest!"

JE1CKA: VK/ZL CW contest was held at the same time. We JA's had much confusion.

IK1GPG: This was my first IRSA contest and very interesting. Congratulations.

I0ZUT: Unfortunately, this year a heavy storm for about 20 hours has limited my participation at only 4 hours.

OF1AF: Again a fiasco contest. Overlapping with VK/ZL contest.

OF2BH (OH1JT, op): It was hard to believe that it was a contest hi!

HA5WE/P: Good contest! See you next year! Please info to JA boys about this contest.

G4FDC: Stream of unexpected visitors and bad propagation spoiled my efforts. Well, there will be next time.

K3WW: Computer crash interfered with momentum Saturday afternoon.

HA5LZ: Thanks for the very good contest. Sri, but I think mni hams do not know the contest rules.

YU4EBL (YU4VO, op.): I Hope to start in the 1988 contest at 0000Z and continue to the CW part.

I1POR: Had limited time but enjoyed the contest. Hope to do better next year.

Thorsten Klaehn, Y57UG

Results 1987 IRSA - Radiosporting WRC Contest

COMBINED PHONE + CW

(Call, Category, Band, Power group, Score)

MULTIOPERATOR

OF1AF	MS	AB	H	831198
LZ9A	MS	AB	H	661277

SINGLE OPERATOR - ALL BAND

K3IPK	SO	AB	H	323553
I2VXJ	SO	AB	H	252452
YU4EBL (YU4VO, op.)	SO	AB	H	190038
N6JV	SO	AB	H	82542
YT3AM	SO	AB	L	65052
W4WKQ	SO	AB	H	33052
OF4RH	SO	AB	H	18011
YU7SF	SO	AB	H	13896
LA4YW	SO	AB	L	12637
VO1AW	SO	AB	H	10316
W3FG	SO	AB	L	7370
K1CLN	SO	AB	H	5250
KT2D	SO	AB	L	2424
W2JEK	SO	AB	Q	578
JH4UYB	SO	AB	H	400

SINGLE OPERATOR - SINGLE BAND

OF3GD	SO	28	L	20032
N4BP	SO	21	H	211378
K4XS	SO	21	H	205224
I2KYM	SO	21	L	12564
VE2AEJ	SO	21	L	990
K5MK	SO	14	L	60562
NL7GP	SO	14	Q	20630
YB3DD	SO	14	L	11372
YU7GMN	SO	3.5	H	10144
W2HG	SO	3.5	L	1653

CW Results

(Call, Category, Band, Power, QSOs, QSO Points, Multipliers, Score)

MULTI OPERATOR

OF1AF	MS	AB	H	465	1339	168	224952
LZ9A (LZ2's DF, HE ops.)	MS	AB	H	211	633	65	41145

SINGLE OPERATOR - ALL BAND

K3IPK	SO	AB	H	593	1779	155	275745
OF2BH (OH1JT, op.)	SO	AB	H	499	1491	172	256452
OF2AQ (OH2BCI, op.)	SO	AB	H	442	1326	142	188292
YU4EBL (YU4VO, op.)	SO	AB	H	526	1578	110	173580
KA9OKH	SO	AB	L	381	1139	135	153765
I2VXJ	SO	AB	H	347	1041	100	104100
HA5LZ	SO	AB	L	217	651	142	92442
N7CIX	SO	AB	L	274	822	70	57540
W6OKX/4	SO	AB	L	154	462	95	43890
WA2ASQ	SO	AB	L	151	453	58	26274
W4WKQ	SO	AB	H	120	360	61	21960
NL7GP	SO	AB	Q	191	573	36	20628
W7FGT	SO	AB	H	121	356	52	18512
DL4BBO	SO	AB	H	177	531	34	18054
G3ESF	SO	AB	L	117	351	44	15444
N6JV	SO	AB	H	106	318	46	14628
WA8YWK/5	SO	AB	L	90	270	45	12960
WB2EKK/3	SO	AB	L	82	246	52	12792
I3FDZ	SO	AB	L	91	264	42	11088
LA4YW	SO	AB	L	83	243	45	10935
YU7SF	SO	AB	H	80	240	41	9840
VO1AW	SO	AB	H	67	201	44	8844
JE1CKA	SO	AB	H	76	228	32	7296
W3FG	SO	AB	L	63	183	36	6588
W1HUE	SO	AB	Q	55	161	29	4669
LA7MFA	SO	AB	L	49	149	30	4410
NOFFZ	SO	AB	L	44	128	22	2816
WA4SSB	SO	AB	L	44	132	19	2508
KA7FEF	SO	AB	L	28	84	19	1596
OF4RH	SO	AB	H	25	75	19	1425
G4FDC	SO	AB	Q	26	78	13	1014
KT2D	SO	AB	L	20	60	14	840
K1CLN	SO	AB	H	18	54	15	810
W2JEK	SO	AB	Q	16	48	11	528
YB2FEA	SO	AB	L	16	48	10	480
JH4UYB	SO	AB	H	15	45	8	360
OH9TD	SO	AB	L	7	21	4	84
OH5MX	SO	AB	L	4	12	3	36

SINGLE OPERATOR - SINGLE BAND

OF3GD	SO	28	L	71	213	32	6816
OH1NSJ	SO	28	L	26	74	16	1184
N4BP	SO	21	H	414	1242	53	65826
VE3NBE	SO	21	L	171	513	36	18468
OH5BQ	SO	21	L	107	321	39	12519
IK2AHB	SO	21	L	164	492	24	11808
W3GM	SO	21	H	100	298	29	8642
K4XS	SO	21	H	104	312	27	8424
YT3AM	SO	21	L	52	156	39	6084
KA5W	SO	21	L	71	213	26	5538
YU4EU	SO	21	L	43	129	25	3225
I5OQV	SO	21	H	34	102	15	1530
VE2AEJ	SO	21	L	22	66	12	792
I2KYM	SO	21	L	18	54	14	756
OH7EU	SO	21	L	21	60	12	720
OH8LC	SO	21	L	16	48	8	384
IK8EJN	SO	21	H	9	27	7	189
K5MK	SO	14	L	168	502	40	20080
W9WAQ	SO	14	L	147	441	36	15876
NL7DU	SO	14	H	122	366	34	12444
YB3DD	SO	14	L	58	174	27	4698
4N4A	SO	7	H	144	432	42	18144
NA9J	SO	7	H	128	384	25	9600
IOZUT	SO	7	L	97	289	76	7514
W7FEO	SO	7	L	78	234	19	4446

YU7GMN	SO	3.5	H	76	228	30	6840
W2HG	SO	3.5	L	1	3	1	3

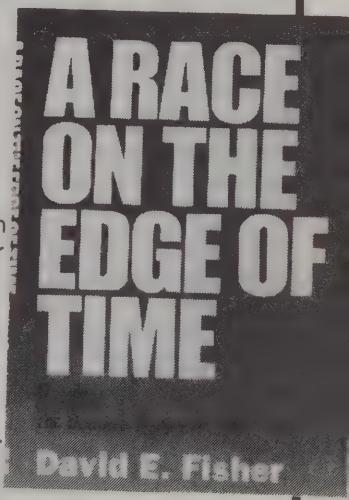
Phone Results

MULTI OPERATOR							
JA9YBA	MM	AB	H	51	102	26	2652
(JA9UDA, JH9OAM, JR8GOU ops.)							
LZ9A	MS	AB	H	1354	2708	229	620132
(LZ2's DF, TI, HE ops.)							
OF1AF	MS	AB	H	1288	2558	237	606246
(OH1's EH, NOA, NSJ ops.)							
K3WW	MS	AB	H	946	1892	166	314072
(+ net)							
HA6KVB	MS	AB	L	314	628	59	37052
SINGLE OPERATOR - ALL BAND							
OH0BH	SO	AB	L	1532	3037	368	1117616
(OH6UM, op.)							
OH3VV/CT3	SO	AB	L	1466	2932	248	727136
I2VXJ	SO	AB	H	608	1216	122	148352
N2BVJ/9	SO	AB	H	395	790	98	77420
N6JV	SO	AB	H	441	882	77	67914
YT3AM	SO	AB	L	253	504	117	58968
K3IPK	SO	AB	H	332	664	72	47808
CT3BM	SO	AB	L	321	642	72	46224
N9EAJ	SO	AB	L	169	338	63	21294
OF4RH	SO	AB	H	159	318	52	16586
YU4EBL	SO	AB	H	211	422	39	16458
(YU4VO, op.)							
ISOAEQ	SO	AB	H	129	258	55	14190
W4WKQ	SO	AB	H	118	236	47	11092
IK1GPG	SO	AB	L	82	164	47	7708
KJ4TI	SO	AB	L	72	144	40	5760
IK2ANI	SO	AB	L	68	136	39	5304
I4CSP	SO	AB	L	56	112	43	4816
K1CLN	SO	AB	H	60	120	37	4440
YU7SF	SO	AB	H	52	104	39	4056
ON8WN	SO	AB	Q	52	104	31	3224
KBOC/9	SO	AB	H	35	70	27	1890
LA2AD	SO	AB	L	36	70	25	1750
LA4YW	SO	AB	L	37	74	23	1702
WK4F	SO	AB	H	37	74	22	1628
KT2D	SO	AB	L	33	66	24	1584
VO1AW	SO	AB	H	32	64	23	1472
W3FG	SO	AB	L	23	46	17	782
VE3FVW	SO	AB	L	14	28	12	336
IK2IKW	SO	AB	L	10	20	8	160
W2JEK	SO	AB	Q	5	10	5	50
JH4UYB	SO	AB	H	5	10	4	40
SINGLE OPERATOR - SINGLE BAND							
OF3GD	SO	28	L	119	236	56	13216
I8BYG	SO	28	L	78	156	253	3900
DJ9ZB	SO	28	L	52	104	33	3432
OH1NSJ	SO	28	L	21	39	8	312
K4XS	SO	21	H	1025	2050	96	196800
N4BP	SO	21	H	827	1654	88	145552
W3BGN	SO	21	H	837	1674	86	143964
YU2NA	SO	21	H	310	620	55	34100
I2KYM	SO	21	L	123	246	48	11808
IK2FCZ	SO	21	H	122	244	33	8052
JL1MWI	SO	21	L	14	28	8	224
VE2AEJ	SO	21	L	11	22	9	198
JH8QBY	SO	21	Q	7	13	7	91
YU1KQ	SO	14	H	842	1684	80	134720
HA5WE/P	SO	14	H	772	1534	79	121186
VE7EIK	SO	14	H	746	1492	75	111900
OH3OJ	SO	14	H	324	648	67	43416
K5MK	SO	14	L	519	1038	39	40482
YB3DD	SO	14	L	71	142	47	6674
IOADY	SO	14	Q	57	114	25	2850
LZ2VU	SO	14	L	40	80	16	1280
NL7GP	SO	14	Q	1	2	1	2
OH5MX	SO	14	L	1	2	1	2
I1POR	SO	14	L	187	374	38	14212
NP4P	SO	7	H	177	354	66	23364
VE3BXY	SO	7	H	1	2	1	2
4N4A	SO	3.5	H	103	206	36	7416
YU7GMN	SO	3.5	H	59	118	28	3304
OF6AC	SO	3.5	H	61	122	27	3294
(OH6CS, op.)							
W2HG	SO	3.5	L	55	110	15	1650

A RACE ON THE EDGE OF TIME

Radar — The Decisive Weapon of WW II

by David E. Fisher



A Race On The Edge Of Time reads like a thriller but is based upon painstaking and comprehensive research by the author. In fact, Fisher argues rather convincingly that radar was the crucial factor that allowed the allies to win the war and that radar has played the same important role in our current military and political environment. Filled with fascinating twists and turns of history that could have changed the war's outcome, anecdotes about the personalities involved in the development of radar and other military insights. Also includes radar development post WW II and how it will influence future battles. Illustrated with rare vintage photographs and diagrams.

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MOROKULIEN LG5LG & SJ9WL

Liv Johansen, LA4YW

The "Country" Morokulien is the Swedish Norwegian borderland district between Magnor in Norway and Eda in Sweden. (Or between Oslo and Stockholm.)

Morokulien was founded as a monument of peace between Sweden and Norway in 1914, - to celebrate 100 years of peace between the two countries. On the 18 meter high monument you can read the inscription: "From now on war between Scandinavian brothers will be impossible."

But until 1959 the borderland had no name. Then in a Swedish-Norwegian radio entertainment program that year called "Across all borders," there was a competition set up to find the best name for "the country." The best name was Morokulien which means "fun" in both countries language. (MORO is fun in Norwegian and KUL is fun in Swedish.) Morokulien was also proclaimed a free state in 1959, even with its own flag, and the peace organizations in Sweden and Norway were to administrate the free state.

On 30 june 1968 the famous radio amateur stations LG5LG & SJ9WL were born in the historical building "Brennastua," which was an old Inn moved there from a place in Norway. Later on, the radio station was moved to "Grensestua" where it is today, after the peace organizations gave the house to the station for this purpose.

In the beginning of this century Grensestua was a central shopping center for the people on both sides of the border. Today it is rebuilt and consists of a kitchen (with 4 beds), a living room with 4 sleeping places), a toilet/bathroom and a radio-shack. Here you can find all the equipment for HF - VHF and RTTY, and antennas are a 6 element tri-band yagi on 10/15/20 meters on a 24 meter steel mast. This mast was put up in February 1981, previously there was a wooden mast which was eventually totally damaged by a woodpecker. They put a piece of the old mast on top of the new one, and the woodpecker was hopefully satisfied. On 80 meters there is a simple dipole and on 40 you can use either a dipole or sloper.

This radio-cottage can be rented by all licensed hams year around, and it is a very popular holiday-place for Swedish and Norwegian amateurs with families. During the winter time Morokulien is a very quiet place, but in the summer-season it is a very crowded place because of all the tourists from all over Europe, and many european amateurs visits the radio-cottages during the summer.

Unlike the high cost of Norwegian camping cottages, it is very cheap to rent the radio cottage. In the summer it costs less than 20 US dollars a day/night, and the rest of the year about 15 US dollars. If you pass Morokulien in winter time you will often find the radio-cottage empty. You can also rent the building at the customs station near by for only 3 US dollars a day. The only thing you have to do is to show your personal amateur radio license.

On Morokulien you also find Tourist Information, Swedish and Norwegian banks, post office (the only place in the world you can use stamps from two countries on the same envelope), Shop, kiosk, petrol station, restaurant, holiday village, camping, swimming pool and a lot of things and places worth seeing both in Sweden and Norway. Some of the most popular attractions are the canoe routes during the summer, and the winter sports ground about 15 km from Morokulien during winter.

On Magnor Glassverk you can also study the old and artistic craftsmanship how to make hand made crystal glass by the artists.

SJ9WL is the Swedish prefix on Morokulien and LG5LG is the Norwegian prefix, and these prefixes are assigned only for Morokulien. Both calls are to be operated from the same station on Morokulien, but only one call at a time as you wish. There are several thousands of SJ9WL and LG5LG QSO's logged, and so far there was more activity from the SJ9WL call sign. Because of the special prefixes for Morokulien, this station is very popular in CQ-WW-WPX contest and also in other big contests.

The QSL manager for SW9JL is SM4FTF Bror S. Bergquist, Smedjegata 14, S-67050 Charlottenberg, Sweden and for LG5LG is LA9DFA Morten Kvernmoen, Kappelvn. 9, N-2240 Magnor, Norway. (LA2ZN who was QSL manager from the start of LG5LG, died May fifth and he was hard to replace.)

Morokulien has also its own award, Morokulien Award, for contacts with LG5LG and SJ9WL. Stations outside Scandinavia must work both callsigns with a time limit of at least 24 hours between each QSO. The award is free of charge and application has to be sent to LA9DFA together with return postage.

Further questions about renting the radio-cottage in Morokulien can be sent to SM4IM Enar Jansson, Gardesgatan 5, S-67050 Charlottenberg, Sweden, who can correspond and is fluent both in English and German languages. (LA4YW)

QSL Manager for LG5LG and Morokulien Award manager - Morten, LA9DFA and his XYL.

5AØA - On the Air From Libya

Chod Harris, VP2ML

In late 1986 and early 1987, Hubert Trzaska, SP6RT, made more than 35,000 contacts from this increasingly rare North African spot. His story is an inspiring example of the resourcefulness and dedication of an active DXer, and well reflects the true spirit of furthering international goodwill through DX.

First Steps

Bert arrived in Libya in the fall of 1985, as guest of the Socialist People's Libyan Arab Jamahirija (SPLAJ), to teach in the electrical engineering department of recently erected Garyounis University in Benghazi. He was immediately impressed by the Libyan people. "Contrary to Europeans, the Libyans are much more kind and helpful. Reverses of fortune they bear with stoicism without loosing nerves, excitements, or quarrels," Bert explains.

Bert's first act upon arriving in Libya was to apply for permission to operate amateur radio equipment. He cited his on-going research into electromagnetic susceptibility (TVI and RFI) and propagation research as his reasons.

A full nine months and many inquires later, Bert's amateur permission came through. Unfortunately, he was unable to bring any radio gear into Libya at that time, nor was he able to get his own gear shipped from Poland. Can you imagine the frustration of a DXer in Libya with a license, but no gear!

A resourceful amateur in the electrical engineering department of a university is not at a total loss, however. Bert searched through the lab equipment and found an excellent Rohde-Schwartz receiver, model EK-070, that would cover the amateur bands. The search turned up nothing that would serve as a transmitter.

Bert asked the various amateur radio and DX foundations for assistance, but most wanted assurance that the operation would count for DXCC before providing the gear. His comments on this situation are worth quoting at length:

"I was unable to understand why ARRL had to poke its nose into Libyan affairs. My operating privileges have been issued by legal, internationally recognized authorities of the country and any other foreign examinations of legacy could be given up.

Of course, it is necessary to verify operations from areas of un-clear administration, inaccessible areas, etc., but in the case of Libya? Maybe someone from the ARRL would like to go there and would try to operate from there without appropriate authorization? Good luck!

Getting On the Air

Not wanting to wait for the ARRL's decision before he got on the air, Bert continued to check out the lab's high power signal generators, but all had terrible frequency stability. Finally he located a transmitter of sorts. The university's lab included a Wavetek 178 signal generator that could pump out as much as 1 watt, under ideal conditions. Unfortunately a jerry-rigged amateur antenna is not necessarily ideal, and Bert was able to squeeze only a third of a watt out of the generator. He increased this slightly by feeding the antenna through an attenuator. The improved impedance match more than compensated for the 3 dB attenuation, and he was on the air with a half watt into the antenna!

The arrangement was far from perfect. To switch from receiving to transmitting, Bert had to key the operating frequency and power output out of memory of the signal generator, and execute the change. Not exactly QSK. Nor was the antenna easy to tune. His operating position was surrounded by high-power broadcast transmitters, which swamped available impedance measuring devices. Keying the rig was yet another problem. The signal generator could not be keyed directly, as it took too long to reach a stable frequency. Lacking alternatives, Bert decided to key the antenna circuit. After failing to find any suitable key, Bert resorted to tapping a banana plug into a socket to key his signal. While continuing to scrounge for parts to build a simple amplifier or even a matching network, Bert fired up this improvised station as 5AØA on 14005 kHz on November 22, 1986, and logged G6ZO for his first QSO.

QRPp Operation

Over the next three months, Bert logged nearly 6,000 contacts on every continent in more than 60 different countries with his half watt. The first 2,000 QSOs were made with his makeshift "keyer." The DX Bulletin reported at the time that Bert's CW was "very slow, and often strange." No wonder, with that setup!

Gradually the amateur community began to help out. DJ2BW and DK1RV sent an electronic keyer to Bert at the end of January, and Bert's QSO rate doubled. Bert comments, "Only these two had really decided to start to do something before ARRL finished its considerations. May there be more such 'doers' instead of 'thinkers' and 'talkers.' I would like to strongly emphasize their kind act. I do appreciate it." Then, following the ARRL's acceptance of Bert's 5AA operation for DXCC credit, the fledgling European DX Foundation chipped in a Yaesu FT-901D transceiver.

An attempt to erect a tribander donated by the INDEXA failed, due to lack of a rotor and cables, and difficulties with Customs. Bert continued to use dipoles about 20 feet high for the rest of his operation.

Observations on the Bands. Bert had little trouble working Europe with his modest station. In fact, almost 29,000 of his 35,000 QSOs were with European DXers. He worked 3,700 North American hams, and 2,300 Asians, but only a handful of Oceania, South American, and fellow African amateurs. His totals show 8,100 SSB contacts and 27,400 on CW. He just missed 5BWAC, lacking only an Oceania station on 80.

Bert made a particular effort to work as many stations as possible, but had to struggle through much QRM. He compares the pile-ups with the queues in meat shops in his native Poland. But he hung in there, and maintained an iron fist on the pile-ups. Some of the things Bert did to keep control of the frequency were to answer questions only when asked during a QSO, not to answer obvious questions (What country is 5A?), and not to accept many skeds for other bands. On the latter, Bert explains, "I did not make skeds as a rule: If you want me, catch me. Moreover, very often I was unable to say if at a particular moment I would be able to get on the air at all, because of my duties at the university, local QRM, or one of thousands of other reasons."

The usual DX "policemen" harassed his operation, particularly because his QSL manager, SP6BZ, was not listed in the latest Callbook. He avoided list operations with the single exception of Jim Smith, VK9NS's net, which he used to work South Pacific stations.

His only real operating problem came from DXers seeking "insurance" contacts, duplicating QSOs made on the same band and mode. Since Bert was trying to work as many stations as possible, not make as many QSOs as possible, each such "insurance" contact reduced his chances of giving out Libya as a New One. Some DXers called more than 10 times, and soon found themselves on Bert's 'blacklist.' "They'll find their wait for a 5AØA QSL to be a long one!" Bert says. "Fortunately the list contains very few call signs; unfortunately, the majority of them are well-known DX-men."

Bert reports that his contacts with US stations were very good: "I would like to express my admiration for W1, W5, W7, and WØ operators. I never had problems with W4 and W6, a few problems with W2 and W3, and I lost a lot of nerves in contacts with W8 and W9. Especially NIDXA should change its name to NIDXCo., Limited.

Bert's operating schedule varied from day to day, but he spent much of his free time on the air, perched on his hard lab stool, in front of the rig, swatting at mosquitos, calling CQ 20. Sometimes his teaching duties pulled him away from the rig at hours of prime propagation, but his job did take precedence over the radio activities. Still, he was successful at working enough stations that he could occasionally call CQ and get no response. He took these opportunities to try some other bands, and work some SSB as well as CW. He even managed a few dozen QSOs on 160 meters, before a rig problem forced him off the band.

Bert wrapped up his 5AØA operation on July 1, 1987, after logging 35,569 QSOs in 167 countries. He expresses his thanks to those who provided invaluable assistance, including DJ2BW and DK1RV for the keyer, DK9KD and the European DX Foundation for the rig, the SPLAJ authorities for operating permission, his QSL manager, SP6BZ, and his co-workers and friends at Garyounis University for their support. (The DX Bulletin.)

HF PACKET or CW?

Chuck Clark, K4ZN

WHITHER PACKET?

Things are moving fast in the packet racket now. Not just the traffic at 1200 bauds, but also in the packet system itself. FCC's chief of the Personal Radio Bureau, John Johnston, W3BE, said at the Dayton Hamvention that they will be taking up the question of regulating packet. Of course that means it will be several months yet, maybe even a year, before any new rules will be proposed unless something develops that the FCC must deal with immediately. Bill Snyder, W0LHS, writing in the "Digital Bus" column in July Worldradio, told of an amateur who received a warning from the FCC that using a digipeater in Florida to communicate with a packet station in Europe could be illegal third-party traffic. If the top people of the FCC say it's hard to fit packet operation into the existing rules, it would seem that the FCC staffer who originated that warning may have been a bit over-zealous.

The FCC has granted ARRL's request for special temporary authorization to operate about fifty packet stations on the HF bands under automatic control for six months to determine how much interference it will cause to other amateurs, and how well the regulations will be observed. Depending on the outcome, the FCC may remove the prohibition against automatic control of packet stations below 50 MHz.

If the test proves successful, don't be surprised if packet usurps CW's primacy as the mode by which most traffic is passed. True, there are more hams handling traffic on phone, but most of those who handle the big volumes work CW. Most of the people who make the Brass Pounders League (BPL) really do pound brass (or wiggle a bug or key a keyer). But with automatic control, one will no longer have to be concerned about meeting schedules and traffic will not be delayed by net constraints. It will be possible to have it in its destination area in minutes.

ARRL believes that packet stations operating on a single frequency will add no significant QRM during this test. In fact it seems likely that the overall result of handling traffic by packet would be a reduction of QRM, if the system is properly designed and operated. The higher speeds would result in frequencies being in use a shorter period of time: a 25-word message takes one minute to pass at 25 words per minute, while it takes less than two seconds to pass it at 1200 bauds. And with automatic operation there would be no need for calling, checking into nets, arranging frequencies, and the like. You go on the air only when you have traffic to handle, and the station that's supposed to receive it is there waiting. At least that's the way they hope it will work. One thing is sure, however, packet radio is here to stay, and will play a continually increasing role in amateur radio communication.

Say You Saw It In Radiosporting

CODE SPEED

If you have been an amateur for any length of time you have almost certainly been told repeatedly, "I'd like to be a ham myself, I think I could learn enough to pass the written test, but I don't think I could ever learn the code." And maybe the speaker then wonders aloud about why we have to know the code anyway, "I only want to operate phone."

Indeed, why do we have to learn the code? One might answer this question by citing the usefulness of the code, how it can be used in many ways for communicating, by blinker light for example, or how you can get through on CW when you can't on any other mode, or how it lends itself better than voice for written communications, or how it requires simpler equipment and less power and is more economical in its use of the spectrum, or how knowing the code can be useful in an emergency.

All these reasons do have some validity, but there is one that in the last analysis overshadows them all, you can't get a license without passing a code test. The FCC won't issue the license without the test, in fact can not legally do so because the International Radio Regulations require a code test. True, some small countries can get away with issuing amateur licenses without any code tests: I've been told so by amateurs from those countries who never had to learn the code. The main thing you had to know in those countries was whom to see and what was his price. But that won't work in the U.S. as a congressional investigation would result, and probably other nations would complain that we allowed unqualified persons to operate radio stations. In the U.S., therefore, and nearly everywhere else, it's no ticket without a code test.

And that seems to be the principal reason why many amateurs have learned the code, because they couldn't get a license without it. Once they get their ticket they put away their key and take up permanent residence in the phone bands. They will brag that they no longer can even recognize their own call in Morse code. A couple decades ago they didn't make that boast, because when they renewed their licenses they had to declare on their Form 610 that they were still able to meet the requirements for the class of license they held, and there was always the danger that an FCC monitoring station could be listening. There were even rumors that some FCC examiners gave code tests to applicants already holding general class licenses before they let them take the written test for advanced. But no more: once you have passed the code test you need not fear having to take it again nor have you any obligation to maintain your proficiency.

That such an attitude is so widespread is to be regretted. It's a shame that hams go to all that trouble to learn the code, and then, just when they are getting proficient enough to enjoy it, drop it. Thirteen words per minute is too fast for beginners, too slow for the proficient. It's fast enough to be difficult, but it's still slow enough that you copy letter by letter, slow enough for one to lose one's train of thought between the beginning and the end of a sentence, too slow for easy conversation. Until you can handle 20 or 25 words per minute comfortably, can understand it without needing to write everything down, C.W. will remain work, and so it's no wonder that so many get rid of their keys. We become hams for fun, not for work! And yet, with a little additional practice, the higher speed can easily be reached. The hardest part of the job is already behind us, learning the code. All we need now is to speed up our minds and ears a bit.

REGULAR PRACTICE - THE KEY

How to do this? You'll have to work at the higher speed, obviously. It will take a long time to learn to copy 20 words per minute if you never copy anyone going over 13. The usual recommendation is that we work at copying stations transmitting at speeds a bit higher than we can copy comfortably. This works. It is the fruit of long experience in teaching the code, and should be our main procedure. Another thing that can be helpful is to have the text of material being transmitted at a speed which we cannot copy, so that we can read it from paper and follow it by ear as it comes in, occasionally not looking at the paper and trying to get it by listening, but returning to the paper if we get lost. We can do this easily with the W1AW code practice transmissions, because W1AW announces at the beginning of the transmission where the text is to be found, normally in a recent issue of QST. This September, however, W1AW is using the text of the U.S. Constitution, commemorating the 200th anniversary of that document.

Work at this for a few weeks of daily practice and you'll soon be ready to take the 20 words per minute test, and you'll find yourself reading code in your head, and even enjoying chatting with other amateurs using your fingers instead of your voice. One other recommendation, is that you participate in CW traffic nets and contests as a means to improve your code speed. If you look up the calls of stations regularly checking into a CW net, any net outside the novice bands, you'll find a sizeable number of holders of extra class licenses. Before you conclude that this shows you have to be a speed demon to work in those nets, consider that most of them did not have their extra when they began to handle traffic, but rather found that operating in CW nets was a great help to improve their code speed. In general amateur operating, where the format is pretty well cut and dried, "UR RST IS... QTH IS... NAME IS," you really don't get much practice. You know pretty much what's coming, and it doesn't usually matter much whether or not you get everything the other operator says anyway. When you handle traffic you usually don't know what's coming, and you have to get it accurately. One hundred percent accuracy is not the ideal to aim at, it's the minimum acceptable performance. And if you can't copy accurately, really you simply can't copy.

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Earth Currents and the Geomagnetic Field

Michael Mideke, Box 123, San Simeon, CA 93452

In early 1985 I visited Vince Pinto in N.Y. and we spent a couple of delightful days comparing notes on Longwave matter. When Vince learned that I was using low level DC to key my remote transmitter via a single wire and ground return, he expressed surprise that my control was not disrupted by earth current activity. If fact, I was using enough voltage to swamp out any earth current effects, so I never had a problem. But my curiosity was aroused, so when I got I got home I stuck a voltmeter between the 4200 ft. control line and ground at the shack. Sure enough, I found DC on the line, fluctuating around .3 V. Checking several other grounds at various distances from the shack, I found a variety of DC potentials and relative polarities. In all cases I could watch the meter move up and down. A check of WWV at 18 minutes past the hour revealed that there was a rather large magnetic storm in progress. This was fortunate, because had the magnetic field been quiet, I would have seen only steady meter deflections and I might well have lost interest in the subject.

As it was, I was motivated to set up a chart recorder and monitor a pair of unused grounds. By late 1985 I was able to begin permanent monitoring of a pair of grounds 1200 feet apart on a NW-SE baseline, utilizing an aging clockwork driven Esterline-Angus recorder and DC amplifier driving the 1 mA movement. Over the intervening 16 months there have been a couple of panics over dwindling paper and ink supplies and failing clockwork mechanisms. But help has always come in time and the chart trace is virtually continuous.

During this 16 month period I've found that the level of earth current activity closely reflects geomagnetic activity. When I'm doing serious propagation monitoring (which seems to be most of time), I take notes twice daily on the previous several hours of chart. Observations have come to be categorized as follows: Quiet, Slightly Disturbed, Disturbed, Active, Very Active (or minor storm) and Storm. These are subjective observations based on the number and magnitude of variations in the trace. In general, these readings correspond quite closely to the planetary K indices. There are some exceptions, when my local reading differs in degree from what NBS and NOAA report, but the overall picture is quite consistent. So I'm convinced that my earth current monitor provides a continuous real-time perspective on geomagnetic activity.

Earth current monitoring is nothing new: in fact it represents one of the oldest types of geophysical study. As soon as telegraph lines with ground return circuits were developed it was noted that unaccountable fluctuating DC potentials appeared at the terminals. At times these extraneous voltages were so severe that communications were disrupted. For a given region, it was found that some directions were much more susceptible to earth current interferrence than others. Worst offenders in England were found to be NE to SW lines.

SOME EARLY MONITORING PROJECTS

A good many of the earliest studies were done with active telegraph lines. This process had serious disadvantages and dedicated experimental lines were soon established. One of the earliest experimental efforts was British effort begun in 1865 with running from Greenwich to Dartford and Croyden, 10 miles SE and 8 miles SSW respectively. A considerably more advanced station was set up near Paris in 1892, again with two pairs of ground probes but with the addition of a third circuit which was completely insulated from the earth. This station, in common with others of that era, kept continuous records on photographic film. Most of the early research stations were close to urban areas and they soon succumbed to the noises of industrial electrification. An installation at Ebro, Near Tortusa, Spain, was established in 1910 and continued operation through at least 1926.

The Carnegie Institution erected sophisticated stations at Watheroo, Western Australia and Huancayo, Peru. As recently as 1946, LWCA member Jim Borglum helped to maintain a pair of earth current monitors on Umnak Is. in the Aleutians. This was done by the Carnegie Institute of Terrestrial Magnetism as a part of a summer of volcanic study. The electrodes were 1,000 feet apart in N-S and E-W orientation and the lines drove Esterline Angus recorders by way of tube type DC amplifiers. Time pips were transmitted to the recorder on the hour, via FM radio around 30 MHz. The general range of activity seems to have been similar to what I note in California.

RECENT ACTIVITY

appears to be almost non-existent. Inquiries to the U.S. Geological Survey brought the response that, cut to lack of interest and funds, no earth current monitoring is presently being done under USGS auspices, at least in California. There also seems to be little or no amateur work currently in progress. I understand that in the past some solar flare monitors have used earth current probes in association with VLF monitoring, but apparently noise problems have made the use of surplus or home built magnetometers much more practical.

WHAT ARE EARTH CURRENTS?

Easy enough to detect, earth currents are not so easy to define. They represent a combination, of which the largest component is generally induced currents generated by fluctuations in the magnetic field, which in turn is responding to varying types and densities of solar emissions. Other earth current components are produced by electrochemical, thermoelectric and piezoelectric action within the earth. The atmospheric electrical field also

Say You Saw It In Radiosporting

influences earth current activity. The magnetic influence is pervasive while the other elements tend to be relatively localized. Periodic variations in the intensity and directions of earth current flow may range from seconds (or less) to years. On a grander scale, there must be variation measured in centuries and ten of centuries as the magnetic field moves throughout its slower cycles.

PRACTICAL HINTS.

In general, the greater the distance between probes the greater the voltage. Some directions will yield greater potential than others. Very careful experimentation (or bad luck) will turn up null points where little or no voltage can be detected. The further the probes can be separated the less "noise" will be produced by electrochemical action between the electrodes. Cadmium is supposed to be the material of choice for the electrodes but I've found that whatever noise my copperclad iron pipes produce is swamped by other effects. (But those pickups are widely separated.) At the very least, use the same material for both electrodes and avoid using plumbing, utility grounds, radio shack grounds and the like for part of the system. Random field checks in an electrically quiet area reveal that baselines as short as 50" can be used to detect earth current variation. However, considerable amplification will be required to drive recorders and noise problems are likely to be very bad in urban and suburban areas. Great care must be taken to exclude RF from amplifier circuitry. Series RF chokes and multiple bypass capacitors should be placed on input, output and power leads. The amplifier enclosure should be shielded and that shielding should be grounded independently of the pickup probes. Even then, VHF/UHF resonances may crop up in various leads. Wrapping a few turns of the leads around hunks of ferrite (BCB loopstick antenna cores will do) (Or Texpro Snap-On-Chokes, VE3BMV) will often cure this kind of trouble. Long lines to the ground probes need not be shielded: just filter out the RF and AF energy they carry before it can get into the amplifier.

Nearby lightning strikes can cause large currents to flow in the earth, creating a potential hazard to instruments, so probe lines should be disconnected and grounded during thunderstorms unless suitable protective limiting can be provided. Lightning strikes also disrupt the prevailing earth current pattern for periods ranging from minutes to hours - it can be quite interesting to watch things come back to normal after lightning activity.

WHAT NEXT?

My present system seems to be quite adequate for basic geomagnetic monitoring: I expect to keep it running for a long time to come. Resolution of this system is only about 2 mV and some checks with an oscilloscope reveal activity well down in the microvolts. How much of this low level activity is manmade noise of one sort or another and how much might be attributed to geomagnetic activity, seismic events or other causes.....all remains to be seen. Small DC potentials applied to ground probes nearly 1/4 mile from the pickups produce readily discernable effects on the scope. This suggests that the manmade noise floor may not be too far below my present 2 mV threshold. Still, there is always something attractive about weak signals and I hope to add a second recorder to monitor the next level of activity, just to se what's there. Assuming earth current monitoring has been abandoned for even a couple of decades, it seems like it may be time to re-evaluate it's potential in the light of modern digital signal processing techniques. If we can systematically subtract all or most of the "known" elements from a readout, that leaves us with the unknown, which has to be interesting and may be useful.

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K indices (Kp) in the illustration are estimated values published in THE REPORT AND FORECAST OF SOLAR GEOPHYSICAL DATA numbers SESC PRF 581 and 590.

SPECIAL THANKS TO: Ed Phillips (IZJ), Dave Stinson (NTS), Chip Owens (Q) and Mitchell Lee (MEL), without whose material and technical assistance my project would never have gotten into the ground!

PROPAGATION RESOURCE

In a letter dated May 4, Sheldon Remington provides news of new propagation bulletins from Radio Australia. The broadcasts are daily except Sunday at the following times (all UTC): 0425, 0825, 1225, 1625, and 2025. Sheldon suggests the following frequencies (in same sequence as above): 9,580, no suggestion, 9,620 and 9,580, 17,795 and 15,160, 17,750 and 15,395 kHz.

(Reprinted from The Lowdown, The Longwave Club of America publication)

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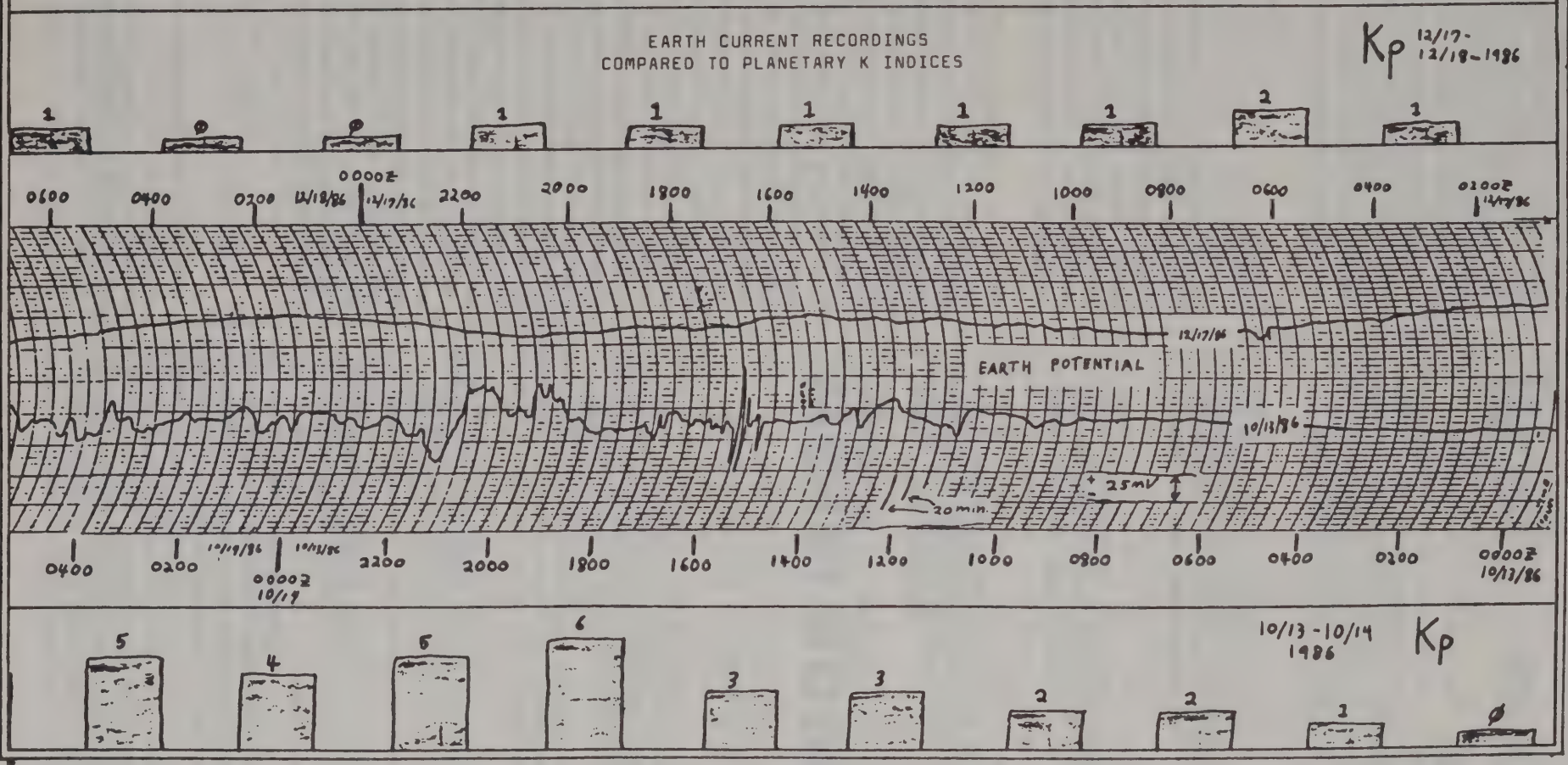
Since late 1985 I have maintained continuous chart recordings of the varying potential appearing between two ground probes situated 1200 ft apart in a NW-SE orientation. The chart rate is 3/4 inch per hour (scale is reduced in this illustration). Mean potential across the earth probes is around 390 mv; a bit higher in winter, a bit lower in summer. During magnetic quiet periods the chart reveals a sine wave having a peak-to-peak period around 12 hrs and amplitude variation ranging from 10 mv or less to over 40 mv. The "quiet" line of 12/17/86 (upper trace) is fairly typical.

During magnetic storms abrupt swings similar to that displayed at 1540 hrs on the lower trace may exceed 200 mv.

In order to conserve paper, each roll is rewound and passed through the recorder a second time, resulting in two parallel traces offset by about 2 months. This arbitrary justaposition serves to display typical traces for periods of quiet and active geomagnetic conditions.

3 hour planetary K indices (Kp) for the periods are displayed adjacent to corresponding earth potential lines.



Gerry Matis, W3GM

Gale Steward, K3ND

Over the years, thousands of contesters and DXers have worked Gerry Mathis, W3GM, and wondered what is behind this "Good Morning" station. Gerry has been in the multi-multi league right from the beginning and around one hundred operators went through "Gerry's School of Contesting." W3GM was the first winner of the IRSA - RADIOSPORTING WRC multi-multi category.

W3GM, is located on approximately 8 acres, about 45 miles north of Philadelphia, Pennsylvania in the rolling hills of Perkiomen Valley. The near field topography is flat with the far field topography being a gentle down slope in all directions except west. To the west, the terrain rises slightly before sloping downward.

To compete in the multi-multi class, many antennas are needed at Gerry's station is no exception! At present there are seven towers: four towers are at 100 feet, one tower 60 at feet, and two towers at 50 feet. There are also four verticals for 80 meters and two verticals for 160 meters. In addition there are numerous beverage and wire antennas.

With the exception of one of the 50 foot towers, all are Rohn 25 and are rather unique in construction. All are hinged at the base and have a permanently mounted gin pole (also made of Rohn 25) at the right angle to the tower, at the base. The towers are guyed every 90 degrees "around" instead of the usual 120. A heavy steel pipe is set in concrete near the end of the gin pole, to which a heavy duty winch is attached. The steel winch cable is set at the "front" set of tower guys are attached at the gin pole. Using this method, it is possible to "lay over" a 100 foot tower in a mater of minutes for repairs. 115 VAC power is run to each winch post so that a large industrial-type electric drill can be coupled to the winch to crank the tower up and down. It is a great system if your property allows you the room to lay the tower down. As near as I can tell, Gerry "invented" this system which has been adopted by myself, as well as K3ZUF, W3MM and others. Also, all the 100 foot towers have several rope lanyards attached so that wire antennas can be raised and lowered from the ground.

The Antenna System

A description of the antenna system is as follows:

10 meters - 5 element Yagi (Home Brew) at 100 ft., 5 element (Home Brew) at 60 ft.

15 meters - 5 element (155BA) at 100 ft., 4 element (modified Cushcraft) at 50 ft.

20 meters - 5 element (205BA) at 100 ft., 4 element (204BA) at 50 ft. The smaller tower is about 60 feet in front of, and in-line with the 100 foot tower (on Europe). They can be fed independently or as stacked array. At times they are 1 to 2 S-units better than either the high or low antenna.

40 meters - 3 element full-size (Home Brew) at 100 ft., inverted-Vee, sloper (south)

The rotators for the high 20 and 40 meter antennas are prop-pitch motors. They are mounted "outside" the towers near the ground and are chain-driven to a 2 inch galvanized steel conduit that runs up through the towers. It is effectively a 100 foot drive pipe for the antennas. All other rotators are of the Ham-M type.

80 meters - pair of phased verticals. Each pair is spaced 90 degrees and is fed to obtain an end fire (cardioid) pattern. One pair is switchable SE or NW. Also an inverted Vee at 100 foot is used.

160 meters - Pair of top loaded phased verticals switchable NE or SW. Also bidirectional SE/NW.

Receiving antennas - four beverages (NE, East, South and West). All are 550 to 600 feet long, terminated, and have 9:1 transformers at the feed end.

Equipment

The station is normally set up with 4 separate operating positions, although as many as six have been used.

Position 1 - 20 meters. TS-930S and modified Henry 2K-2.

Position 2 - 80/10 meters. TS-930S or CX7A and modified Henry 2K.

Position 3 - 160/15 meters. TS-930S or CX7A and MLA2500 (15), home brew 4-400A's (160).

Position 4 - 40 meters - TS930S or CX7A, 75S3B and home brew 3-500's.

The station is operated as a multi-multi in the major DX contests and as a multi-single or single op in some of the smaller ones. It was utilized as a two-transmitter multi for both modes of the ARRL DX Contest the first year that the multi-2 category was introduced and finished third on CW and 5th on phone.

As with any DX/Contest station, repairs and modifications to the antennas and equipment is an ongoing task. Also improvements to the station are always being discussed. The station "plays" very well and is lots of fun to operate.

(K3ND)

Gerry, W3GM (left) with with Gale, K3ND and Woody, K2UU (right) at the location of K2GL/N2AA

The DRAGONFLY Antenna

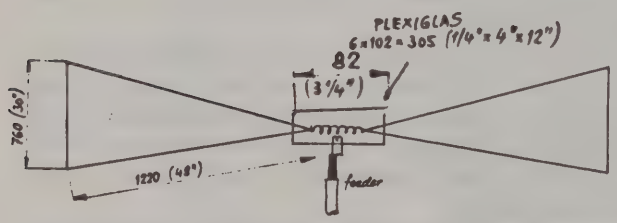
Alex Korda, G4FDC

After using an XJK antenna (RadCom August 79, p.732) for some time on the 28 MHz band, I decided to try some sort of mini-beam which could be rotated. After clearing the space in the loft formerly occupied by the XJK, I soon realized that it was impossible to squeeze into the given space any two or three element beam however small.

The XJK gave a very good performance, but as with all horizontal loops, it was very sensitive to the house wiring coupling.

So it was back to the drawing board, or rather the latent idea of the previously tried Dragonfly antenna. Four years ago I built a Dragonfly three element beam but its performance was disappointing. Since then I kept the elements in the garage.

Only recently I discovered why this beam did not work. In the process of tuning the beam I used a borrowed GDO which later proved to be about 1 MHz out of calibration. This Dragonfly beam was described by W3CBM in the "Hints & Kinks" section of QST Magazine (July 81, p.46)



Now I use only one element, have it tuned to 28.5 MHz and I am quite pleased with the results.

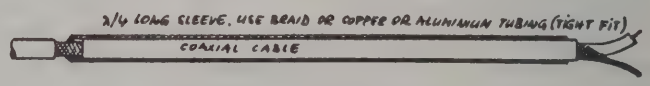
As with all single band antennas which are used without an antenna tuning unit at the feed point, do use a coaxial cable 1/2 wavelength at the desired frequency, or multiples of 1/2 wavelength as a feeder. With this arrangement the antenna feed point impedance will be exactly reflected at the end of the feedline, where an antenna tuner can match it accurately if a need arises. The length of a coaxial cable 1/2 wave length long can be calculated as follows:

$$Lm = 150/f \times Vf$$

Lm is length in meters, f Mhz is frequency in MHz, Vf is the coaxial cable velocity factor of propagation. To obtain the length in feet use the formula L ft. = 468/f MHz x Vf. The velocity factor is dependent on the type of insulation used to separate the center conductor from the braid.

Cables with a solid dielectric have a Vf of 0.66, Vf for a helical membrane (Heliax) is 0.96, and the Vf for foam dielectric is 0.8.

When feeding balanced antennas, like dipoles, with coaxial cable it is advisable to employ some sort of matching device because we are feeding the balanced antenna with the unbalanced feed line. In my case I have used a device called the Bazooka line balancer, despite a two turn link coupling the transmission line to the antenna, which is supposed to do the trick. It is actually a 1/4 wavelength long sleeve employed at the antenna end of the coaxial cable.

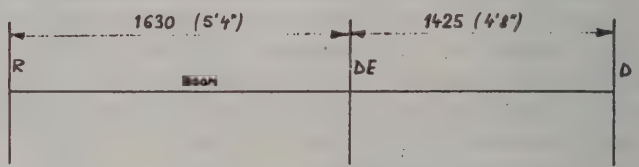


Only the bottom end of the sleeve is connected to the braid of the coaxial cable. The length of the 1/4 wavelength sleeve can be calculated as follows:

$$Lm = 71 / f\,MHz$$

This method is also used for the feeders of the 1/2 wave verticals to provide so called "RF cooling."

The construction of the three element Dragonfly beam is relatively simple. All three elements are the same except the loading coil which tunes the elements to a different frequency. The DE (driven element) is tuned to resonate on 28.5 MHz, the R (reflector) resonates on 26 MHz, and the D (director) resonates on 30 MHz.



Element tuning is accomplished by spreading or compressing the coils to obtain resonance on the desired frequency.

Elements are made of 12 mm (1/2") OD aluminum tubing.

The coaxial cable is coupled to the DE via a 2 turn link placed at the center of the loading coil.

The tuning coils are made with 1.6 mm diameter (16 SWG) wire. Coil dimensions are: R = 14 turns, DE = 12 turns, D = 10 turns. All coils are 25 mm (1 inch) diameter. Coil length is 85 mm (3 1/4 inches).

(G4FDC)

THE POPE'S VISIT

Rev. Chuck Clark, K4ZN

In September, 1987, Pope John Paul II paid his second extended visit to the United States since his election to the papacy. As the Catholic Church is by far the largest religious denomination in the country, large crowds were expected in most of the cities where he visited, and there was the additional need to provide protection for him as required by diplomatic protocol for heads of state, not a mere formality in this instance, as more than one attempt has been made on this pope's life. Extensive communication facilities would be required to coordinate the planned events, also to prevent unplanned events, and in many cases there could be problems of intercommunication between the various agencies and groups involved. It is occasions like this that often call for the participation of Amateur Radio in one way or another. Here is how four different cities on the papal itinerary met the need successfully in four different ways.

FLORIDA

In Dade County, Florida, English is rapidly becoming a minority language with the influx of so many Cubans and other Latins, most of whom call themselves Catholics, and many of whom readily show themselves members of the Church militant, even though they may in many cases leave the actual church going to the women. It was obvious that the turnout for the events would be big, possibly bigger than anything Miami had seen before. And so preparations were made on a large scale as well.

The cover story in November Worldradio tells what happened. Amateur Radio as such had only a small part to play, the plan was to use amateur bands for communications involving the safety of human life, and also as a kind of unlisted phone number so that communications could be maintained should someone try to jam the other channels. Routine communications were handled by other services using their own frequencies, with amateurs also serving as skilled operators and technical assistants to aid those other services. Amateurs were very much involved in the planning and actual operation however. The Archdiocese of Miami asked the Sociedad Internacional de Radio Aficionados, SIRA, to organize and plan it, to train the persons involved, to issue and recover the radio equipment, and to coordinate the entire operation. Having a core of bilingual operators with extensive experience in emergency communication, SIRA stepped in and saw to it that the necessary circuits were set up, that circuit discipline was maintained, and that all needs were met.

Rafael M. Estevez, WA4ZZG, president of SIRA, was asked by a journalist about the difference between this and an emergency. He replied that this was an organized emergency, and that he was pleased with the way things went, using hurriedly trained personnel with much good will but limited experience, and yet getting the job done.

SOUTH CAROLINA

In contrast to Miami, South Carolina has very few Catholics, estimated about one percent of the population of the State. And so the crowds were expected to be smaller, but authorities realized that the crowds could be large enough to create problems. They did not anticipate any problems that their various regular communications systems couldn't handle, however. As a result, Amateur Radio was not directly involved when the Pope made a short stopover in Columbia en route to New Orleans.

The Columbia Fire Department set up its mobile communications van, bristling with antennas, in the parking lot at Saint Peter's Church in downtown Columbia, and was able to coordinate everything from there. The crowd turned out to be far less than expected, and the anticipated huge traffic jam was actually smaller than a normal rush hour. It was a smooth operation, and there was no need for any additional communications.

TEXAS

San Antonio proved to be a repeat performance of Miami, but because it happened in Texas it was on a larger scale, of course. And Amateur Radio participated as such. Bill Lynch, WB5ZJC, tells about it in the Public Service column in January QST.

With a year's advance warning, amateurs were able to make preparations, recruit and train operators, secure and test equipment, consult with officials. A million or more were expected to attend, and so preparations had to be on a large scale too. Sixteen frequencies were set aside for the event. Packet was used to keep track of persons transported to hospitals. To provide additional coverage of the parade route, 30 CB operators from REACT, 17 from Civil Air Patrol, and 25 from Boy Scout Explorer Post 700 were deployed along the route, and amateurs were spread among them to relay communications beyond the range of the others' equipment.

Preparation paid off. The temperature reached 94 degrees and medical personnel were kept busy, but casualties rarely had to wait more than five minutes for transportation. In all, 124 amateurs participated, and the operation demonstrated once again the value of careful planning and proper training, enabling a dedicated group of amateurs to do a professional job of communicating.

CALIFORNIA

An article in December 1987 Worldradio tells how the California Office of Emergency Services asked the Palo

Alto Chapter of Red Cross to provide medical and security coverage for the Pope's visit to Laguna Seca race track. Amateurs had only two weeks' notice, but were able to assemble a crew of twenty, to check out the site, plan the operation, put together the equipment. Once again, experience and training paid off. There were already enough radios belonging to other services to provide voice communication, but the amateurs were able to offer another service that proved invaluable, amateur TV. Six TV sets on a long table at the command post gave the authorities views of what was happening, and they could direct the camera operators by voice to give them the pictures they wanted. Previous experience had taught the amateurs that the authorities like it best when we let them do the communicating themselves as much as possible, and keep the ham to ham communication to a minimum.

Amateur Radio still has a role to play in public-service events such as this, but these days that role may be something other than showing up with hand-held rigs. In this case the authorities rented 280 non-amateur radios for the medical teams and 300 more for the parking detail. But we have something in amateur TV that is unique, especially because we have frequencies available. Those connected with the papal visit were favorably impressed and indicated that they would be calling for amateur help again.

CONCLUSION

Some consistent facts emerge from a study of these four public-service events. First, Amateur Radio generates a positive image for itself when it provides a service when it is needed, with competent and experienced operators, and keeps out of the way when it is not needed. Second, agencies that can benefit from our help will call on us if we have already made contact with them. Third, agencies with regularly recurring communications needs should establish their own systems if possible and depend on them. Amateur Radio should rather serve those who do not have such systems, or whose systems break down or are not able to handle the traffic load. And Amateur Radio can often also provide additional operators and technical assistance for other services when the need arises.

That seems to be the mind of the FCC too. While the FCC would admit that its classification of radio stations and its allocation of frequencies to them are far from perfect, such actions the result of large expenditures of time and money and hopefully represent a workable compromise between the many conflicting factors that had to be considered. And so it is understandable that the Commission wants the various radio services to stick to doing their own job on their own frequencies as far as that is possible. (K4ZN)

Joe Rudi, NK7U (left) famous player and coach of Oakland A's and Mike Reagan, NI7T are completing the construction of a multi - single station and should be very active in the upcoming contests

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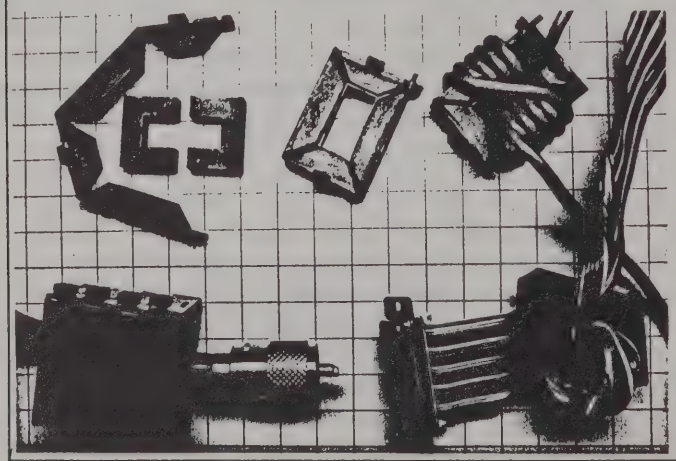

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MICHAEL JACKSON BECOMES HAM???

Mike Crabtree, ABØX

Sources close to super star Michael Jackson have refused to comment on the rumor that Michael has become a radio ham operator. Yet, a persistent rumor continues to circulate among the major DX and contest clubs in California that Michael has become interested in building a super contest station on his private estate in southern California.

Numerous reporters who traveled to Japan on the recent Jackson Tour of Asia have fueled the rumor by reporting that Michael went on a buying spree on radio row while in Tokyo. It was reported that numerous boxes of electronic equipment made by Trio-Kenwood and clearly marked "Amateur Radio Equipment" were sent back to the states by the Jackson entourage.

The original rumor about Jackson's interest in building a contest station included the reuniting of Michael and his brothers to form a multi-op team, The Jackson 5, again. If their strained relations could be patched up, with all their energy they could be unbeatable. However, later reports from one of the contest groups in California, who have mentored Michael's entrance into the world of radio contesting, have indicated that he will continue to perform alone just like his musical act and will enter the very competitive single-op category in the contests. Obviously, this later report seems to better fit the style and personality of Michael, as his skill with a microphone would make him a first rate phone contester.

With Jackson's almost unlimited funds one can only dream of the quality of the contest station he could afford to build. Yet, if Michael enters into the world of contesting with the same style, enthusiasm, and energy that he has done with his music, he will certainly sweep all the major contests! Instead of seeing Michael receiving multiple Grammy awards on TV, we could easily imagine him at the Dayton Hamvention receiving various contest awards in the Contest and DX Forums.

Michael's entrance into contesting could easily have a dramatic effect on the rather bland world of radio fashion as well. Instead of the traditional club shirt or jacket, one can easily imagine major contest clubs ordering a sequined glove for club members to wear of matching colors to meetings and hamfests.

Jackson's physical prowess illustrated by his special dancing ability could be a skill that could be taught to serious antenna builders and tower jockeys. Who knows when the ability to "Moon Walk" on the boom of an 80 meter beam at 120 feet up may be invaluable.

However, Jackson's personal style could be a bad influence on the already arrogant attitude of many contesters around the world. The Liar's Net after the contests on 3830 KHz could turn into this. "I'm bad, ya'know. I'm bad!" (For our older members this really means "I'm very good!") or worse yet: "I made 2 million points, Now beat it! Yeah, Beat it!"

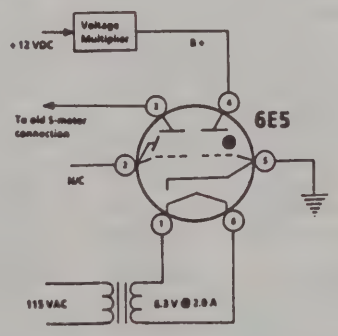
Only time will tell if the rumor is true. However, a reliable source back east has added to the credibility of the rumor by reporting that a certain well-known contest club in that part of the country has already ordered their light blue sequined gloves for their next meeting!

Reported by ABØX who is not responsible for the validity of these rumors.

ADDING A "MAGIC EYE" TUNING TUBE TO TS-930S

Harold Kennedy, N4GG

As most owners know, the Kenwood TS-930 is a fine rig with the exception that the built-in S-meter is poor in appearance and awkward to use. With little difficulty, however, the S-meter can ve replaced by a sophisticated green "magic eye" tuning tube as used in Gonset Communicators in years past. This modification, although originally designed for the TS-930, can be adapted readily to the TS-940 also. The electrical changes are simple: follow the schematic below.



The existing S-meter can be removed with a pry-bar or wood chisel. The front panel opening is then enlarged with a rat-tail file, and the "magic eye" tube is fixed in place with white "surgical" adhesive tape. Use a tinsnips to cut an empty Sucrets can to form a new bezel. Paint it grey for a professional appearance. The filament transformer for the 6E5 tuning tube can be obtained from any junk TV set and mounted on the top cover of the transceiver, 2 1/4 inches in from the right rear corner. GEARVAKf Bulletin)

Introducing Radio - Thirties style

Thorsten Balk, H5AI

Yeah! That was a great time, radio in the 30s. Down in the south, a little town, a big family; they call us the Dulltons.

But then, one quiet morning: Wahooee, howl, crack, crack! A big noise and thunder. I grabbed my math book and ran out of the house, only to meet others of our family running. Trooiinkk!! "The pigs, to the pigs." Father was first around the corner. We all swirled. "Quiet," Father shouted. The pigs, all huddled together, were looking toward the house, a blunt look in their eyes. "S-s-s." The bees were humming. It was a hot, humid day. Brain Father was asking, "What was that?"

"I don't know, Father, but I've never heard anything like it before and ...." Blnthf, schlporek a shrieking noise, flowing and stuttering erupted we're all running to the stable to the horses, who were unruly and very nervous.

The little kids now started to cry. Tricky, as we called our grandmother, was shouting something to Pa. All were swirling and it was a big mess.

I tried to grab Snooker but suddenly all fell quiet. Ey Snook I was trying to ask him, but that was unreal. Quiet, so suddenly, we were all standing there dumb-founded.

"Look there," said Pretty.

"Darn fool," Tricky shouted, "come back here!"

What a sight! Grandfather I.W.W., wearing his British saucer-pan helmet, with rifle, dragging a long chain of ammo behind, turned to us; "I'll get those damn Martians, those green, stealing, no-good, robbing, pestering...." He was off in the cornfield patting his gas mask container. We still heard him muttering for quite a while. Only a circling ring of crows now showed his attacking location.

"All go home now." That was Big Mama. We trotted on. Father looked very worried and I had a lot of butterflies in my stomach.

Down the stairs came Valvo, the smallest of us children. Father and I exchanged looks. But no, that can't be. "Did you hear anything, Valvo?" Father was asking.

"How can that be," Tricky replied, "with his earmuffs on, stuck away in that junkyard of his!" She scuffled to the kitchen.

"What's happening?" Valvo asked. Snooker was explaining to him. "Ah, so," Valvo said.

Nothing more was happening tonight. We all were to eat on our big table. Except for Grandpa. "I.W.W. must have some rations left and taken them with him," Tricky said.

But we were all quiet. Thinking. Only chewing noises filled the room. Here and there a slight "sloch." After the meal Snook took me aside. "The family radio," he exclaimed," has another knob missing. And there is a wire stuck out where there was none before," he whispered.

I nodded, not telling him that a few pages of my math book disappeared. Something funny was going on here. Before turning off the light I asked Valvo, "Have you seen some of my math pages?"

"No," he replied, "no idea of your Ohm's Law sheets." I turned off the light, but it was as bright as before. Ohm's Law! It struck me in the dark. He knows! Valvo, a Martian, green? No, no, I thought. Not Valvo. Only just about 12 years of age. Yes, he's funny. As Pa said, "There's something not kosher with earmuffs with cables on them." And I've seen him working with funny glass bulbs with little pins on them. Yup, and he talks funny, too. Heard him humming to himsef like a stuttering bee. Strange brother.

Red light filled the room. A fireball way back over the cornfield. I.W.W., of course. Oh well, then, "Goodnight."

The lively morning chatter of our sisters filled the kitchen. Tricky was turning the radio on for the morning prayer, as it was Sunday today. A small voice was filled with cracks and noise. That radio was no good. Very fast when we installed it, it was losing power. Pa said something of aging tubes. I didn't understand. That was when Valvo started talking funny. Atmospherics! What can that be? It kept me wondering. Anyway, I was hoping for a nice quiet day and so it seemed.

Blam! Blam! Crashing down came a Martian aircraft. Swirling, flapping, green trash comes down the sky. "Wahh! Wahh!" A bunch of torpedoes down the path. Our sisters. Grandpa shot down their kite. That was easy. In this hot summer weather a kite won't fly well. But so, green it was. And there was I.W.W. signaling with his trumpet the all clear.

Then I decided to pay Valvo a visit. "I'm going to Valvo, Pa," I said, seeing Pa holding a bunch of wires with funny ends on them, and with a bright-colored box in his hand.

"Ever ready," he said, "must be some of I.W.W.'s ammo. "Yes son, talk to Valvo, brain. That'll do you both good." He was turning the box up and down and shaking it. "120 volt," he said, "hi-speed probably. Well, go on."

So here I am in Valvo's bunk. "Why do you always wear such fancy muffs," I asked?

"If I don't I look like Dumbo," he said. Yeah, that's true, I thought. "What's that big horn for?" I asked him, pointing to a big, big funnel. He muttered something about a loudspeaker, suddenly stopped, turned red and hiccupped. There's something very wrong with him, I thought. His room is a mess. Wires all over. And ugly looking coils and goofy needles behind glass, a lot of I.W.W.'s ammo boxes around, and what I the least understood, plugged into something.

"That is a shortwave set," Valvo explained. I couldn't see a wave, even a short one. "The aerials are coming down here, and there is the amplifier and ...."

I didn't listen, that's what a high up washing line is! Too high to be of use. Amplifier loudspeaker. I knew he didn't have any political ambitions, a 12 yearling.

"So I tune in and adjust the feedback here." I heard him. I was digging my head into the funnel to see what "party" "ampli-voice" could be, when all hell broke loose. Again, as on that day, but much worse. Shriek noises filled my head. Voices and shouts and Martian music. I was shocked. I couldn't move. Through my open eyes I saw a green bi-plane coming in, leaning over, belching smoke, and crashing into the cornfield. Then a deep voice told me to vote for President E .... Then I fainted, or did I?

Coming together, a nice warm day, sitting on the porch, staring into the silky air. I heard Valvo and Pa arguing and Tricky's shrill voice shouting. "Give him the tubes, give him the tubes."

Big Mama was slapping our sisters for wrapping up a pink kite in the high-up "washing line." In the distance I could see I.W.W. fighting in front of a broken bi-plane with the pilot, I think. Grandpa was beating up on him with his gas mask container. Then I discovered I was holding one of Grandpa's ammo boxes with two wires coming out and sticking into my ears.

Then I smiled. I was thinking about the $6.95 I've saved for my own shortwave set.

(H5AI)

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CR9BZ	7,533,480
P40A	7,481,920
TR1G	5,758,257
T30RY	5,364,444
ZB2X	4,895,520
OH0BH	4,283,244
SU1ER	4,161,130
K4YT/DU8	3,425,408
UA9YX	3,409,436
HI3JH	3,397,884
VE6OU/3	3,115,356
9J2EZ	3,023,541
GW4BLE	2,928,000
HA0MM	2,861,108
OA4ZV	2,741,160
ZY5TT	2,393,182
OH6LK	2,156,880
RB5DX	2,127,972
ZY4OY	2,105,180
IV3PRK	1,971,935
UT4UX/RJ5J	1,905,787
JR6EZE	1,887,705
RB5MF	1,882,010
CE3BFZ	1,848,916
HK1LDG	1,837,743
5T5BC	1,806,000
JG1FVZ/5N27	1,728,540
VK2KL	1,724,602
ZY5VV	1,719,850
XX9T	1,716,780
JA1XAF	1,703,668
DJ2YA	1,636,992
DJ9ZB	1,529,973
7P8DP	1,468,794
JA8RWU	1,453,347
AY9D	1,425,745
VP2E/N3JT	1,411,704
SV1JG	1,365,178
VO1MP	1,363,380
ZF2JI	1,301,890
IV3YYK	1,272,248
JF1SEK	1,269,234
YV1DWQ	1,262,679
TI2MEN	1,177,188
JH0KHR	1,141,946
PP2ZDD	1,126,780
PA0AGA	1,117,208
HU1YS	1,109,200
AH6FL	1,095,120
EA5DFY	1,075,875
G3SNN	1,068,795
5T5MH	1,014,797
EA3NU	1,010,339

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1.8 MHz

UG7GWO	255,852
LZ2CJ	94,247
WB8DIT/VP2M	40,392
SV8CS	39,294
KH6CC	37,138
LZ1KOZ	34,038
UA9SIJ	31,248
TI2CC	27,265
OK3CWQ	25,655
UA9AB	22,755
CT1AOZ	22,680
YO2IS	15,704
OK1DFF	14,958
DK8NG	13,376
UA3DJG	11,776
VE7IG	10,350

3.8 MHz

P40R	552,786
8R1RPN	231,984
UA2FGA	196,992
HA4KYN	177,154
NP4AT	148,960
CU2AK	143,336
RB5FF	138,112
OK2RZ	126,581
I4EWH	122,232
UB5IKB	117,912
EA9RM	98,650
DF8AE	81,079

7 MHz

EA8RCT	859,362
FJ5BL	654,258
EA8ACH	583,478
IO3MAU	430,332
VE3CDX	369,799
JA8IXM	311,360
FM4EB	304,251
JA2BAY	239,538
OF2HE	228,404
RU1DZ	227,432
RB5MR	212,736
SM5AQD	210,140
SP3RBR	193,210
YT7A	185,913
I5FCK	185,739
NP4P	185,659
DL8PC	183,446
OF1AF	179,375
F6BBJ	138,104
UB5WE	121,830
JA5CJZ	119,888
SP2ZFJ	114,125
RB5ISU	111,090
UB5IHL	101,545

14 MHz

EA9IE	1,875,972
P40SS	1,792,056
ZZ5EG	1,647,820
YW1A	1,540,170
RF0FWW	1,474,128
LZ1KGB	1,388,628
IO1ZEU	1,224,818
YT3AA	1,073,340
VO1QU	915,275
I5MXX	914,104
4N7N	882,882
A92BE	840,392
CE0ZIJ	825,775
RG5XE	782,901
JA4FWM	774,288
CE3NR	681,526
VE2ZP	675,025
TF3CW	664,576
UP2BW	635,810
G3FXB	610,426
IK6CWQ	604,800
YU7AV	591,888
YU2W	577,350
9H3DX	519,547
YT4I	510,872
DF0AT	500,634
JA0QNJ	470,840
ON7LX	458,952
LU5HNB	453,905
YU7BJ	452,928
YT1W	452,724
IK8ETA	452,295
CX8CG	424,266
VE7EIK	419,292
KH6FKG	411,700
UR2RE	404,954

21 MHz

CW4C	3,019,940
PY5EG	2,468,529
HC1OT	1,813,395
LU2E	1,576,995
P40T	1,317,081
LU4L	1,237,956
5Z4DU	1,060,345
4N4A	942,039
KH2D	894,615
YT3L	846,360
WA4TLI/CT3	789,360
TI2LTA	779,166
ZS6BRZ	771,975
LU6DB	732,155
VE3XN	731,808
YT7NW	707,085
UG6LQ	701,454
VU2Z	689,164
OF5BM	675,032
KH0AC	668,072
N7NR/KH6	634,998
FM4DN	571,160
4N4Y	552,902
EA8LS	547,520
YC0SQT	525,162
JK1JQQ	516,694
EA8AKN	502,400
KP4EQF	486,120
JR1WHW	469,062
YC3HCM	446,670
JR1CBC	438,915
GB5NN	438,900
YY1C	434,175
DF8XC	426,258
IK4GNH	423,925
HK1KXA	417,150
JH1DWM	415,940

28 MHz

ZY5EG	1,777,508
LU1E	1,486,650
CX4HS	1,326,894
CE6EZ	1,224,492
CX7BY	1,156,159
CW2A	891,625
EA8VV	648,094
FM5CL	644,861
LU1HOO	635,252
XE1OH	610,984
K8UE/VP2M	591,442
HK3MAE	591,334
4X6MH	513,360
PY1ACV	444,780
YV6PM	416,864
UL7ACI	368,067
YC2CTW	367,731
L4H	353,865
ZS6P	353,430
CQ7NH	352,352
JH1AJT	301,116
PY1ADE	261,709
UM8MIG	258,060
EA9RY	254,410
UA6LQ	249,630
ZL1BWM	220,601
ZL1AAS	190,213
VE1BNN	189,090
ZY5GX	182,880
LU1ABT	180,744
HC1PF	171,534
JA9RPU	159,505
ZY1NEZ	159,505
AA4VK/CT3	153,648

Multi-Operator
Single Transmitter

KP2A	10,786,756
8P9HR	9,993,160
KP4BZ	9,762,546
LZ9A	7,890,048
ZC4DX	7,085,540
PJ0J	6,953,920
I4EAT	6,880,321
OK7MM	6,405,738
OK5R	6,328,330
IK4CFV	6,140,151
HG6N	5,854,884
HG7B	5,731,191
ZF1KK/9	5,605,984
HG5A	5,464,665
LU2F	5,370,008
CQ9MI	5,095,208
HG9R	5,039,307
C30W	4,599,644
UL8LYA	4,507,448
HK4R	4,334,220
LU1VZ	4,325,904
F6EXV	4,265,412
DF9ZP/VP9	4,181,514
KH2F/KH4	4,073,980
OF5NQ	4,005,122
EA7CFW	3,988,062
HG1S	3,971,376
UQ1GWW	3,908,750
HH2MC	3,721,875
GW8GT	3,710,162
UR1RWX	3,508,652
VE1DH	3,498,297
TK5UC	3,489,255
CE4TR	3,303,872
YU3AI	3,302,884
IU2HM	3,276,720
OH7AB	3,190,100
UQ1GZW	3,012,363

Multi-Operator
Multi-Transmitter

PJ1B	36,229,044
P40V	34,556,967
HC8DX	33,933,691
VP9AD	23,392,165
KH6XX	13,368,816
UP7A	10,726,404
HB0/DL8OH	7,669,416
YB0WR	7,530,844
V47Z	7,250,568
JA2YKA	6,818,350
KL7Y	4,599,912
JA3YBF	4,161,246
JA9YBA	3,433,396
JA7YFB	3,430,306
JA7YRR	3,331,776
HB0/DF1JC	3,078,350
KL7RA	3,041,121
FKJJH4RHF	2,915,822

QRP

PJ2FR	3,186,682
VE1CBF	588,555
4M3A	562,875
LZ2QV	290,166
UG/UB4WZZ	219,744
FD1BEG	203,796
VU2N	123,849
RT4UB	95,816
OH5NHI	78,948
OK1DKS	72,618
JH4UYB	72,020
JA2JSF	64,314
JG6KZH	53,592
ZS6PT	48,544

USA
Single Operator
All Band

KC1F	3,219,970
K1ZM	2,765,602
KM1H	2,661,744
K1DG	2,494,580
W3BGN	2,283,393
KM6B	2,176,510
N2LT	2,162,616
K5ZD/3	2,083,725
KS1L	1,958,956
K1YR	1,951,481
K4ISV	1,926,009
WX4G	1,772,904
N2IC/0	1,756,020
K6HNZ	1,722,918
N2MM	1,719,408
NY2L	1,679,875
K3ZJ	1,607,830
N6AR/4	1,528,904
K2DM	1,494,894
W9ZR	1,385,550
K0UK	1,365,012
W1WEF	1,284,840
WZ4F	1,271,118
NN7L	1,265,232
K1CC	1,206,900
W3UM	1,172,934
K1VR	1,169,646
W1RR	1,008,852
N6AW	1,002,592

1.8 MHz

WB9HAD	27,181
W0ZV	12,204
W4DR	10,515
W2FCR	10,044
K7IDX	7,080
N1ACH	5,254
W1NG	4,756
K4TEA	3,552
K3UA	3,096
WB3AVN	2,976
WB5KYK	2,916
K5WXZ	2,784
AA4MM	2,336

3.8 MHz

WB8JBM	105,492
W6RJ	100,620
WA4SVO	77,559
KC7EM	50,172
W4PZV	26,660
W2HZ	22,230
KT7G	16,356
K0KX	14,755
K0GT	14,271
W5EU	11,868
KE9U	8,964

7 MHz

W6YA	351,422
KV0Q	102,691
N6BFM/4	64,546
K8XR	63,220
KP4AKB/8	45,144
K8PO/1	39,330
AD8C	30,970
W4OWY	28,552
KN5S	26,796
K3BSY	20,510

14 MHz

K2VV	812,392
N2AA	707,616
K1UO	657,900
W7WA	649,250
K1RU	607,749
NB1H	566,720
KW8N	563,313
K9JF/7	522,474
K2HFX	521,976
W6QHS	496,920
W7IL	453,648
K3IPK	368,816
NG2X	359,445
KV4P	357,135
N4MO	314,457
W8TWA	210,586
W1BWS	197,280
W7FP	192,896
W5FO	178,266
W2HG	131,875
WF5E	130,320
W7TJ	121,329
KD8B	109,872
W9GIL	106,091

21 MHz

K3RV/4	663,993
W5VX	599,238
W6PU	441,000
K4XS	425,941
KA5W	381,350
K0RF	335,575
W4XJ	276,213
KS9U	259,798
K2WK	256,685
WA2QNW	247,695
W2HPF	245,195
N4VZ	229,103
NX7K	228,060
KB5AS/6	220,968
W9RN	216,518
W6BSY	164,538
WB5UDX	153,016
N2DTL	134,664
AG9S	112,392
K7GEX	107,811
WA7PEZ	107,688
K2MFY	103,854

28 MHz

K6SVL	176,449
KE5FI	158,256
N4EJV	149,388
WB7FDQ	117,792
WA7KLK	76,518
WA6VNR	75,348
WA2BOT	67,815
W5VGX	66,564
K6KUO	57,288
N9RD	49,677
KA6SAR	45,370
K2OLG	38,270
KB8LM	36,656
WA6FGV	34,920
W9XT	33,212
K1EFI	32,943
WB5RUS	32,825

Multi-Operator
Single Transmitter

K1AR	4,531,168
K3TUP	4,513,041
N2RM	4,344,639
N4WW	4,288,284
N4ZC	3,705,794
N4RJ	3,503,291
K3OO	3,311,680
WM5G	3,111,996
W2RQ	2,979,162
W5WMU	2,828,020
W9RE	2,427,892
K8CC	2,403,236
K1TO	2,400,018
N8CXX	2,334,548
WA8DXG	2,159,492
K5NA/2	2,151,765
KA1GG	2,134,410
N2MG	2,119,754
W6TMD	2,097,677
WB2ULI	2,046,681
K6ZM	2,006,368
W3XU	1,852,650
KY1H	1,839,606
KC7V	1,802,188
KT9M	1,703,264
K3WW	1,614,591

Multi-Operator
Multi-Transmitter

W3LPL	9,755,280
N5AU	7,975,648
NR5M	7,348,572
K2TR	3,871,428
K4VX/0	3,580,650
K1NG	3,197,430
W3GM	2,665,023
K3ZZ	1,617,490

QRP

K3WS	247,710
N1AFC	210,546
W0KEA	174,086
KZ5Q	129,614
WB6JHC	59,170
W6CN	24,072
N6OJ	20,930

SWL Corner

Listening from 10 kHz to 1.3 GHz

W2XQ
Tom Sundstrom

PO Box 2275
Vincentown, NJ 08088-2275

Joining an SWL Club.

The Association of North American Radio Clubs (ANARC) is an umbrella organization whose members are the non-profit listening clubs on this continent. Why join a club? The common interests of a population are reflected in the club leadership and bulletin. Unlike most amateur radio clubs that tend to draw membership from the immediate area, radio listening clubs have memberships scattered around the continent and the world. The vehicles are the club bulletins, usually monthly, that distribute timely information based upon members' contributions.

ANARC was founded in 1964 as a uniting organization for the non-profit radio listening clubs in North America. All ANARC member clubs are reliable, responsible volunteer organizations. Full Member Clubs are generally older and larger than Provisional Member Clubs and ANARC Associates, but all groups meet ANARC's high standards.

ANARC's objectives are to promote closer ties among radio clubs, to promote the interchange of information and ideas among member clubs, to work for the common good of listeners, and to provide a medium to speak out for radio clubs and listeners in North America. ANARC holds a summertime convention at a different site in North America each year. Listeners and broadcasters from all over the world attend the convention which is usually held in mid-to-late July. The convention is filled with discussions, seminars, demonstrations, panels and presentations. ANARC conventions offer unique opportunities for listeners, equipment dealers and broadcasters to meet with others who share their interests and professions.

There are two major events in 1988. Those of you going to the Dayton Hamvention can stop in at the SWL Forum on Sunday, May 1, from 9 to 11:30 a.m. The guest speakers include Jonathan Marks, host of Radio Nederland's popular Media Network program, Bob Grove of Grove Enterprises and Bob Horvitz, ANARC's Executive Secretary. Additionally, there will be a ANARC booth where you can stop by and pick up literature from all clubs and an information sheet about this year's convention. This year, the convention will be held from July 13 to 16 in Irvine, CA. We'll have more to say about the convention next month, but put it on your calendar now.

ANARC also sponsors a telephone bulletin board system. It is in Spokane, WA, at 1-509-534-6866, 1200 or 300 baud.

ANARC publishes a monthly newsletter. It contains the latest information on the ANARC member clubs, ANARC's own activities, equipment reviews and special features. A one-year subscription to the ANARC NEWSLETTER is available for US$7.50 via first class mail in North America; US$10.00 via airmail elsewhere. A sample copy is 60 cents and a business-size SASE in the USA; 75 cents in mint stamps in Canada; or 4 IRCs elsewhere.

A copy of the current club list can be obtained for a business-size SASE in the USA; 50 cents in mint stamps in Canada; or 2 IRCs elsewhere.

These publications may be ordered from: ANARC Publications, P.O. Box 462, Northfield, MN 55057 U.S.A.

Terms and abbreviations used in club list

All wave: Interested in all frequencies and types of stations.

Dues: Annual membership fee, which includes receipt of the club's publication. North American amount applies to U.S.A. and normally Canada and Mexico. All fees are in U.S. currency unless otherwise specified in Canadian currency (CN$). Overseas fees include airmail delivery unless otherwise indicated.

FM: FM broadcasting stations in the 88-108 megahertz band.

LW: Longwave band. Located below the standard MW broadcast band.

MW: Mediumwave (AM) band. Located between 540 and 1600 kilohertz.

NA: North America (USA, Canada, Mexico).

PSB: Public service bands (police, fire, emergency medical services, etc.). Generally 30-50, 152-174, 450-512 and 800-950 megahertz.

Sample: Sample copy of club's publication.

SASE: Business-size self-addressed stamped envelope.

SW: Shortwave broadcast stations. Located in certain bands between 3 and 30 megahertz.

TV: Television broadcasting stations.

Util: Utility stations (maritime, aeronautical and fixed services from just above the standard MW broadcast band to 30 megahertz).

Full Member Clubs

(The listings are in the following order: Club Name (Abbreviation); Year Founded in; Address; Coverage; Publication; Dues; Sample.)

- All Ohio Scanner Club (AOSC); 1979
  P.O. Box 2496, Springfield, OH 45501
  PSB (Ohio and surrounding states), Util
  "American Scanner Gram" bimonthly
  NA $15.00, elsewhere write to club
  NA $2.00; elsewhere 3 IRCs

- American Shortwave Listeners Club (ASWLC); 1959
  16182 Ballad Lane, Huntington Beach, CA 92649
  MW, SW, Util
  "SWL" monthly
  $17.00 worldwide, first class or surface mail
  NA $1.00; elsewhere 8 IRCs

- Association of Clandestine radio Enthusiasts (A*C*E); 1981
  P.O. Box 1744, Wilmington, DE 19899
  Clandestine and pirate radio
  "The ACE" monthly
  NA $12.00; elsewhere $18.00
  NA $1.50; elsewhere 3 IRCs

- Association of DX Reporters (ADXR); 1982
  7008 Plymouth Road, Baltimore, MD 21208
  LW, MW, SW, Util, Ham
  "DX Reporter" monthly
  NA $17.00; overseas surface mail $19.00
  NA $1.00; elsewhere 5 IRCs

- Canadian Handicapped Aid Program (CHAP); 1972
  P.O. Box 1143, Pointe Claire, PQ H9S 4H9 Canada
  Promotes shortwave radio for the physically disabled and house-bound through education and services. All physically handicapped and shut-ins residing in Canada are eligible for membership
  Write to club

- Canadian International DX Club (CIDX); 1962
  #61-52152 Range RD 210, Sherwood Park, AB T8G 1A5 Canada
  MW, SW, Util, Ham, FM
  "CIDX Messenger" monthly
  USA $20.00; Canada CN$23.00; elsewhere CN$25.00
  NA $2.00; elsewhere 4 IRCs

- Club Ondes Courtes du Quebec (COCQ); 1974
  160 Ouest Rue Prieur, Montreal, PQ H3L 1R5 Canada
  SW, MW, Ham, Util
  "L'Onde" monthly - in French
  NA CN$34.50; elsewhere CN$36.50
  NA $1.50; elsewhere 5 IRCs

- International Radio Club of America (IRCA); 1964
  P.O. Box 21074, Seattle, WA 98111
  MW
  "DX Monitor" 34 issues annually
  USA $20.00; Canada/Mexico $26.00; Central America, Colombia, Venezuela, Caribbean $30.00; rest of South America, Europe, North Africa, Middle East $33.00; elsewhere $37.00 Trial Sub: NA only--$7.50 for 10 issues + New Member Packet
  NA $0.50; elsewhere 3 IRCs

- Longwave Club of America (LWCA); 1974
  45 Wildflower Road, Levittown, PA 19057
  LW
  "The Lowdown" monthly
  NA $12 00; elsewhere $18.00
  NA $1.00; elsewhere 5 IRCs

Say You Saw It In Radiosporting

- Miami Valley DX Club (MVDXC); 1973
  4666 Larkhall Lane, Columbus, OH 43229
  All wave
  "DX World" monthly
  NA $8.00; elsewhere write to club
  NA $1.00; elsewhere 3 IRCs

- Michigan Area Radio Enthusiasts (MARE); 1984
  P.O. Box 311, Wixon, MI 48096
  All wave
  "MARE Members Newsletter" bimonthly
  NA $6.00; elsewhere write to club
  NA $1.00; elsewhere 3 IRCs
  Activities: Meetings held bimonthly in Detroit/Lansing areas

- Minnesota DX Club (MDXC); 1973
  5212 Drew Avenue South, Minneapolis, MN 55410
  All wave
  "MDXC Newsletter" monthly
  NA $10.00
  Activities: Monthly meetings in Minneapolis area; membership limited to residents of Minnesota and Western Wisconsin

- National Radio Club (NRC); 1933
  P.O. Box 118, Poquonock, CT 06064
  MW
  "DX News" 30 issues annually
  USA $24.00; Canada $25.00; elsewhere write to club
  NA $1.00; elsewhere 3 IRCs

- North American Shortwave Association (NASWA); 1961
  45 Wildflower Road, Levittown, PA 19057
  SW
  "FRENDX" monthly
  NA and worldwide by surface mail $18.00; Central America/Caribbean, South America, Europe $25.00; Africa, Asia, Pacific $28.00
  NA $1.00; elsewhere 5 IRCs

- Ontario DX Association (ODXA); 1974
  P.O. Box 232, Station Z, Toronto, ON M5N 2Z4, Canada
  (USA membership representative--Mr. Harold Riddell, 2844 S. Union, Rochester, NY 14624)
  SW, MW, Util
  "DX Ontario" monthly
  USA $18.00; Canada CN$25.00; elsewhere $22.00 or CN$30.00. NA multiple-year memberships--2 years $33.00 or CN$45.00, 3 years $47.00 or CN$65.00
  NA $2.00 or CN$2.00; elsewhere 4 IRCs

- Radio Communications Monitoring Association (RCMA); 1975
  P.O. Box 542, Silverado, CA 92676
  PSB, Util
  "RCMA Newsletter" monthly
  USA $16.50; Canada/Mexico $18.50; Europe $20.00; Asia/Pacific $21.50
  NA $1.00; elsewhere 6 IRCs

- Society to Preserve the Engrossing Enjoyment of DXing (SPEEDX) 1971
  7738 East Hampton, Tucson, AZ 85715
  SW, Util
  "SPEEDX" monthly
  NA and worldwide by surface mail $18.00; Caribbean/Central America $24.00; Europe, South America $28.00; Asia, Pacific, Africa, USSR $31.00
  NA $1.50; elsewhere 8 IRCs

- Washington Area DX Association (WADXA); 1978
  606 Forest Glen Road, Silver Spring, MD 20901
  All wave
  "WADXA News" quarterly
  NA $6.00
  Activities: Quarterly meetings in Washington, DC area; membership limited to residents of Washington, DC area

- Worldwide TV-FM DX Association (WTFDA); 1967
  P.O. Box 514, Buffalo, NY 14205
  TV, FM, PSB, Satellites
  "VHF-UHF Digest" monthly
  NA $15.00; elsewhere $24.00
  NA $1.00; elsewhere 6 IRCs

ANARC ASSOCIATES

- Southern California Area DXers (SCADS); 1972
  3809 Rose Avenue, Long Beach, CA 90807
  All wave
  "SCADS Newsletter" quarterly
  NA $10.00
  Activities: Quarterly meetings in Long Beach, CA; membership limited to residents of California

ANARC AFFILIATED ORGANIZATIONS

These are umbrella organizations for clubs in Europe and the South Pacific.

- European DX Council (EDXC); 1965
  P.O. Box 4, St. Ives, Huntingdon, Cambs PE17 4FE England
  EDXC is the European equivalent of ANARC "EDXC Newsletter" 10 times per year
  Send 3 IRCs for list of member clubs and Newsletter subscription cost

- Southern Pacific Association of Radio Clubs (SPARC); 1982
  P.O. Box 1313, Invercargill, New Zealand
  SPARC is the South Pacific equivalent of ANARC
  Send 3 IRCs for list of member clubs

CONCLUSION

I have upgraded the Pinelands RBBS telephone bulletin board system to an 8 MHz XT turbo with 60 M of hard disk storage, and I invite Radiosporting readers to take a look. There are 17 directories -- including HAM, SWL and PACKET -- of downloadable files to look through. For the IBM PC, XT, AT and compatibles, we offer new versions of W1HKJ's excellent CW tutorial/terminal program, a terminal program covering everything but packet, a Field Day duping program, and a net manager's on-line database to help control a net operation. There are a number of propagation programs on line too, including W6EL's excellent MINIPROP 2.0, and a complete packet radio BBS software package written by KA2BQE. Call 1-609-859-1910 using 2400, 1200 or 300 baud, 8 bit, no parity and 1 stop bit.

You can leave mail, questions and comments on Pinelands, or send them via MCI or Compuserve to MCI Mail ID 244-6376, via the Source to BCF811, or via packet radio to W2XQ @ WB2MNF. If you have access to Telex, use 6502446376.

Let me know what you hear. (W2XQ)

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If you haven't heard about this one , you certainly will be shortly. This is a new book and computer software with all that you could ever hope for concerning LOW - BAND DX-ING information. Available is a diskette which takes all the pain out of those impedance and transmission line calculations which leave most of us high and dry. Not only this, the software will take on such things as Sunrise/ Sunset (worldwide), beam headings (worldwide), Grayline. Included also are antenna design methods and associated computer programs for the design of yagis, verticals, and phased arrays. The book is a classic. John (ON4UN) is a hands on ham who is giving you the benefit of his experience in working 315 countries on 75 meters -- something that most of us can only dream about. If you are tired of guessing about what you should do to improve your signal or when is the best time of the day or year to go after that elusive country then this is probably the package for you.
There's more than luck to being a sucessful low band Dx-er. It takes knowledge and technical skills. John has put his own personal experience down on paper for you in a clear, easily understandable form. Take advantage of this offer today.

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NEWS ! A C-64 VERSION WILL BE AVAILABLE EARLY IN 1988 - WATCH FOR DETAILS

6 m Corner

KA3B
Harry Schools

1606 S Newkirk St.
Philadelphia, PA 19145

DX BRIEFS

Dutch amateurs get 50 MHz access from March 1988

In the Dutch National Society's Journal Electron, it was stated that to enable propagation studies to be carried out at 50 MHz, the Dutch PTT is to allow limited facilities to Dutch amateurs for a period of up to five years. Operation will be on a non-interference basis in the frequency range of 50.000 - 50.450 MHz. The experiment will last from the 1st of March 1988 until the 31st of December 1993. Cross-band operation will be permitted but all operation will be CW ONLY with an output limited to 30 watts. Their will be no restrictions or limitations to the design or sitting of antennas, but the Dutch national society, VERON, recommends low-gain antennas. Individual licence holders with classes A, B, or C licenses may apply for a permit to operate at 50 MHz for an initial period of one year. Unmanned stations will not be permitted.(TNX Dave, G4ASR via RSGB VHF/UHF Newsletter)

Steve Katz, WB2WIK reports that he has sent 6 meter equipment to Frank, PA3BFM.

Paul Turner, G4IJE may have been first UK operator to make the first UK to Holland on 6 m. Paul worked PAØRDY on 50.150 CW at 1928 Z on March 1. PAØRDY was running only 4 W to a 3 el. yagi. Some 85 6 m permits were applied for in Holland. (TNX Westlink Report)

French Amateurs on 6 m.

Class A license holders will be permitted operation on 50 MHz with power restrictions depending how far they are from a TV station. Because TV stations are planned for north and south of Paris, this area is off limits for 6 meter operation. Stations located over 200 km from a TV station will be permitted 10 watts ERP. Stations between 150 - 200 km will only be allowed 3 watts ERP maximum. Anyone located within 150 km will not be granted a permit. (TNX Dave, G4ASR)

Gibraltar

A DXpedition to ZB2 is planned to take place between May 31 and June 14. Operation will be on HF, 6 m, 2 m, 70 and 23 cm.

Gabon

Phillip Delcroix, TR8DX is reported to be operational on 6 with 40 W and a 4 el. Yagi. Periods of activity is usually evenings and weekends. Others in Gabon interested in 6 m include TR8CA and TR8JLD.

Falkland Islands

Bob, VP8BKK is reported to have shown interest in 6 m operation and is awaiting delivery of a SWAN 250 transceiver, possibly from WA2FUZ.

Nicaragua

YN3CC is now on 6 m with Yaesu FT-620B and 5 el. yagi donated by the SMIRK. He is waiting for an OK from authorities to begin operation.

Dominica

Peter, J73PD is no longer active on 6 m. Word has been received from Lambert, J73LC that Peter took his 6 m antennas down. Lambert, however, has expressed interest in 6 m activities. Hopefully, J73LC will become operational on the band as Dominica is a country which is still needed by many. (TNX Bud, K2YOF)

Zambia

Bill, 9J2WS will be active on 6 m from Zambia until the end of 989 at which time he will return home to Sierra Leone as 9L1WS. His equipment includes a Yaesu FT-101 and FTV-650 transverter with 40 W output.

El Salvador

In addition to YS1ECB, Marco Diaz, YS1OD is reported to be active on 6m. His equipment is unknown at this time. His address is Box 464, San Salvador, El Salvador.

Martinique

Three operators are reported to be active from this small island (grid FK 94). They are FM3AG, FM3BY, and FM5CS. FM3BY appears from all reports to be the most active of the three. From Ray Clark's, K5ZMS Six Shots column in Worldradio, FM3BY is reported to be running 10 W to a 4 el. yagi. His address is: Gerard Josepha, PO Box 1130, Fort de France, Martinique, French West Indies

Peru

OA8ABT is active with 50 W and stacked 5 el. yagis. (TNX K5ZMS)

Saba

An expedition to Saba Island (FK 87) manned by 6 Meter DX Society members Mario Karcich, WB2CZB, Jim Holt, N3AHI and John Laing, W1EXC has been finalized for July 7 - 14, 1988. They will be using 3 and 5 el. beams and solid state amplifiers on 6 m. The Call used will be PJØM and QSL cards should go to Mario, K2MUB, SASE please.

Melilla & Ceuta

Alfonso Rabaneda, EA9ID may be getting on 6 m soon. (TNX K5ZMS)

Beacon Briefs

GB3SIX:

Reports have been received that the GB3SIX beacon is no longer on the air. However, the OK has been apparently given for another beacon from Sheffield on a frequency of 50.000 MHz. We will report more on this one soon.

I5TDJ:

Piero Moroni, I5TDJ has recently applied for a permit to once again place a 6 m beacon on 50.319 MHz. He had the permit withdrawn in 1981.

CTØWW:

This one on 50.029 operated on an intermittent basis. I have now been told that its operation is continuous. Reception reports go to CT1WW at: Tiago J. Frederrico, Nagoselo Do Douro, 5130 S Joao Pesdueira, Portugal.

South African Beacons

The following information has been provided by the VHF Newsletter which is published by Hal Lund, ZS6WB for South African amateurs.

50.005	ZS2SIX	Univ. of P.E.	JF25	25W
50.010	ZS1STB	Stilbaai	JF05	25W
50.0225	ZS6LW	near Rosslyn	KG44	50W
50.050	ZS6DN	near Pretoria	KG44	
50.055	ZS6DN			

Beamed in different direction intermittently.

Australian Beacons

Jeff Page, VK2BYY writes us concerning the VK2RSY beacons which are located in Dural, a suburb of Sydney. Beacons are using callsign VK2RSY and are operational on 28.262, 52.420, 144.420, 432.420 and 296.420 MHz. The 6 m beacon was established back in 1970 and originally used the callsign VK2WI and operated on 52.450 MHz. The frequency change occurred in 1981 to comply with the national beacon bandplan. The new callsign was issued in 1983. The beacon site is located at the top of a ridge of the coastal ranges and overlooks much of the Sydney Basin. The 6 m beacons runs 25 W to a turnstile at 240 m ASL (20 m above ground) and is operational 24 hours a day.

Australian 6 m Beacons.

52.200 MHz	VK8VF	DARWIN
52.320 MHz	VK6RTT	WICKHAM
52.325 MHz	VK2RHV	NEWCASTLE
52.345 MHz	VK4ABP	LONGREACH
52.350 MHz	VK6RTU	KALGOORLIE
52.370 MHz	VK7RST	HOBART
52.418 MHz	VKØMA	MAWSON
52.420 MHz	VK2RSY	SYDNEY
52.425 MHz	VK2RGB	GUNNEDAH
52.435 MHz	VK3RMV	HAMILTON
52.440 MHz	VK4RTL	TOWNSVILLE
52.450 MHz	VK5VF	MOUNT LOFTY
52.460 MHz	VK6RPH	PERTH
52.465 MHz	VK6RTW	ALBANY
52.470 MHz	VK7RNT	LAUNCESTON
52.485 MHz	VK8RAS	ALICE SPRINGS

Say You Saw It In Radiosporting

WA7ECY Beacon

Scott MacGregor, WA7ECY informs me that his 50.070 MHz beacon is no longer utilizing a vertical J pole antenna. A home brewed "squalo" at 30 feet is now being utilized. He also informs me that the beacon transmitter is an Ameco TX-62 which is controlled by a VIC-20 computer.

N7DB - 50.067 MHz

From Dave Bernhardt, N7DB comes the following info on his beacon which was listed as being temporarily QRT: The beacon frequency is now 50.067 and operation will be as much as possible depending on TVI and telephone interference. The rig is home brew crystal controlled with 10 W output into the a coaxial vertical at 10 feet. Also used is an ICOM IC-502 with either the vertical or his 8 el. beam at 25 feet. His QTH is 18 miles SE of Portland, OR (CN85). The beacon message: VVV DE N7DB/B ORE CN85 AR, sent at 15 WPM.

NB3O - 50.065 MHz

This beacons is operational from Rhode Island (FN 41), running 100 W output into a 5 el. beam pointed at 222 deg. towards Virginia for meteor burst experiments. His QTH is listed in Westchester,VA, update would be greatly appreciated.

June VHF Contest Expedition

Chincoteaugue Island, VA (FM27) will be activated by SCORE group during the ARRL June 11 - 12 VHF contest with bigger and better effort than last year. Steve, WB2WIK and the group worked last year 450 stations in 204 grids on 6 m with 200 W PEP. This year, two legal limit 6 m stations will be utilized, with better antennas. Their location right at the ocean affords a good shot into Europe and they will definitely look in that direction. Last year they were heard quite well in the UK off the back of their antennas. Unfortunately no contacts were made. Steve says that they will look for Europeans higher in the band (around 50.175 or so).

1987 ARRL Spring Sprint Results - 6 m

WA1OUB	1,804	82 X 22	- NH
K1TOL	752	47 X 16	- ME
W1GRW	616	44 X 14	- CT
N1ABY	600	50 X 12	- CT
AC1J	495	45 X 11	- NH
AF1T	456	38 X 12	- NH
K1TR	429	39 X 11	- NH
W1JR	324	27 X 12	- EMA
NJ2L/1	207	23 X 9	- CT
W1GXT	120	20 X 6	- EMA
KA1DHO	85	17 X 5	- EMA
W1AW (KA1CV)	64	16 X 4	- CT
KH6CP/1	52	13 X 4	- CT
KZ1L	32	8 X 4	- ME
AA2Z	24	8 X 3	- CT
KA1CV	3	3 X 1	- CT
KA1LMR	1	1 X 1	- NH
N2WK	2,048	64 X 32	- WNY
KD2YB	1,829	59 X 31	- WNY
W2HRW	1,176	62 X 19	- SNJ
N2AHN	1,006	56 X 18	- SNJ
W2VO	273	21 X 13	- WNY
WB2YEH	250	25 X 10	- SNJ
W2EIF	230	23 X 10	- SNJ
K2GK	150	15 X 10	- WNY
KU2A	140	14 X 10	- WNY
N2BJ	72	12 X 6	- ENY
KQ3D	1,539	57 X 27	- EPA
AC3T (KA3B)	1,170	65 X 18	- DE
W3XO	848	53 X 16	- MDC
W3ZZ	680	40 X 17	- MDC
W3HDH	665	35 X 19	- WPA
W3CL	630	45 X 14	- EPA
W3KWH (N3EQP)	627	33 X 19	- WPA
WA3AQA	340	34 X 10	- EPA
W3KJM	264	22 X 12	- WPA
WA3YON	154	14 X 11	- EPA
N4MM	1,620	60 X 27	- VA
K4LHB	1,320	60 X 22	- VA
KB4OLM	1,118	43 X 26	- VA
WB4SLM	1,040	40 X 26	- GA
WA4NKL	900	36 X 25	- GA
WD4FAB	651	31 X 21	- NFL
N4MQX	645	43 X 15	- VA
W4LMJ	112	14 X 8	- VA
N4HB	112	16 X 7	- VA
WB4NIX	84	12 X 7	- AL
N4AHJ	50	10 X 5	- AL
WB4WXE	36	6 X 6	- GA
WA4AUX	32	8 X 4	- TN
K1FJM/4	24	6 X 4	- SFL
KD5RO	2,541	77 X 33	- NTX
KB7IJ/5	2,088	72 X 29	- NTX
WA5UFH	1,160	40 X 29	- LA
W5NZS	465	31 X 15	- OK
K5UR	106	12 X 9	- AR
K5IS	56	8 X 7	- WTX
K5SW	25	5 X 5	- OK
KG6DX	84	12 X 7	- PAC
NS6X	70	14 X 5	- SB
N6NVF	55	11 X 5	- ORG
W6RXQ	54	9 X 6	- SCV
ND7M	96	12 X 8	- NV
WB7OHF	32	8 X 4	- AZ
KA7YOU	24	8 X 3	- WA
WB8BKC	2,340	65 X 36	- MI
WB8IGY	1,666	49 X 34	- MI
KB8ZW	1,550	50 X 31	- OH
WA8TXT	1,066	41 X 26	- OH
WØUC/9	1,824	57 X 32	- WI
NØFFO	720	30 X 24	- KS
NØLL	486	27 X 18	- KS
KDØBT	459	27 X 17	- IA
KAØJGH	304	19 X 16	- NE
WØJRP	294	21 X 14	- MO
WAØDCB	120	12 X 10	- IA
K6LMN/Ø	6	3 X 2	- CO
VE3LNX	1,392	48 X 29	- ON
XE2GBO	28	7 X 4	- XE

SCORE LEADERS

KD5RO	2,541	77 X 33	- NTX
WB8BKC	2,340	65 X 36	- MI
KB7IJ/5	2,088	72 X 29	- NTX
N2WK	2,048	64 X 32	- WNY
KD2YB	1,829	59 X 31	- WNY
WØUC/9	1,824	57 X 32	- WI
WA1OUB	1,804	82 X 22	- NH
WB8IGY	1,666	49 X 34	- MI
N4MM	1,620	60 X 27	- VA
KB8ZW	1,550	50 X 31	- OH

The 1988 ARRL 50 MHz Spring Sprint will be held on May 21 (Sunday May 22 GMT) Contest forms and head sheets can be obtained from the ARRL

The VK2RSY beacon antennas located at Dural, 25 km NW of Sydney, Australia

VK2RSY beacon transmitters

Traffic, Emergency

K4ZN
Rev. Chuck Clark

Route 3, Box 800
Moncks Corner, SC 29461

MARS

This is being written soon after the U.S. armed forces expressed their interest in Amateur Radio by their annual amateur-military crossband communication party and the message from the Department of Defense to the nation's radio amateurs.

It wasn't always that way. In fact, in the early days of radio the U.S. Navy tried hard to get hams off the air completely. The first spark rigs were untuned, emitted a broad signal around whatever frequency the antenna system happened to find resonant. Receivers were equally non-selective. As a result, there was generally room for only one station on the air at any time. For that reason the Navy asked Congress to grant a monopoly on radio communication in the U.S. to the Navy, making both amateur and commercial radio impossible.

In those days there was no spokesman for Amateur Radio. We had no clout. But thanks to the Marconi company, we did have a defender whose action saved Amateur Radio. Marconi was building radio equipment incorporating tuned circuits, and had patent rights on those circuits, and told Congress that the Navy's proposal was a poor solution to the problem. If the Navy would install state-of-the-art equipment such as Marconi's, it would solve the interference problem and as a bonus greatly increase the range of the stations. Congress agreed and the bill was defeated, and Amateur Radio continued.

Then came World War I and thousands of radio operators were needed, mainly in the Navy. The Army had not begun to use radio much yet, as practical gear for use in the field had not been developed. The Army relied on wireline communication, along with signal flags, heliograph, carrier pigeons, and other similar means of communication. But the lesson was not lost, and shortly after the war both the Army and the Navy came to the nations' amateurs with proposals for mutual cooperation. The Army began the Army-Amateur Radio System, which provided a communications backup service for the Army and trained amateurs in military procedures, using mainly civilian radio amateurs. The Navy established the Naval Communications Reserve, enlisting amateurs into the Naval Reserve, requiring them to meet all the obligations of all reservists, such as drills, training cruises, but allowing them credit for participation in Navy nets from their home stations, with the result that they could earn promotions much more rapidly than other reservists if they worked at it.

Then came World War II, with much greater need for radio personnel. The Navy called its reservists into active service, the Army urged its civilian amateur affiliates to join the Signal Corps, and many did. Other amateurs put their skills at their country's service aboard ships and aircraft, in other branches of the service, in laboratories and factories. Even the German high command recognized the importance of the amateurs' contribution to the war effort. It is said that Hermann Goering complained about the German ministry of communications that it was too possessive of its own turf and discouraged Amateur Radio, with the result that the Allies were far ahead of the Nazis in radar and radio communications, thanks to the tens of thousands of self-trained technicians and operators, young people with ideas and enthusiasm, who were enabling the Allies to halt the advance of the supposedly invincible Wehrmacht.

This contribution of amateurs was not forgotten after the war, and by act of Congress the Military Affiliate Radio System, MARS, was established. It now is really three systems, each sponsored by one of the military arms, Army, Navy/Marines, Air Force. Any citizen or legally admitted permanent resident of the U.S. fourteen years of age or older holding an amateur license issued by the FCC and possessing a station that can operate or that can be modified to operate on MARS frequencies may join MARS. Frequencies used are outside the amateur bands, and operation on those frequencies is not directly under the FCC, but is rather controlled by the sponsoring military service. Some frequencies, particularly those used by Air Force MARS, are far outside the amateur bands, but there are people in all the regions who can instruct newcomers how to modify their rigs. Operation is primarily single sideband voice, but there is much RTTY activity, CW is used and of late its use is being expanded, there are VHF repeaters using FM on military frequencies near the two-meter amateur band, and high-tech digital modes such as packet are rapidly coming into use.

One attraction that brought recruits into MARS in the past was the availability of surplus gear issued by the sponsoring service to MARS members to upgrade their stations. The program still continues, but there isn't as much gear available as formerly. One would make a mistake in most cases these days to join MARS primarily for the equipment program, but it does come as a welcome bonus for those who are active, and enables them to do a better job of assisting the sponsoring military organization

MARS is a strictly volunteer organization, and affiliate (civilian) members assume no obligations and are free to resign at any time. On joining, new members are first assigned to a training net to acquaint them with the procedures, which are somewhat different from those used on the amateur bands. Members are expected to operate a minimum of twelve hours each quarter, and of course are encouraged to do more. Anyone wishing further information may contact the headquarters of any of the branches:

Army: Director, CONUS Army MARS, C Com 7th Signal Command, Fort Richie, MD 21719.

Navy/Marine Corps: Chief, Navy-Marine Corps MARS, NavTELCOM, Washington, DC 20390.

Air Force: Chief, Air Force MARS, HQ AFCC/DOOCC (MARS), Scott AFB, IL 62225-6001. ●

TELEPHONE NUMBERS

When we handle formal messages for third parties who are not amateurs, the messages have a better chance of being delivered if the telephone number of the addressee is given. It's often helpful to include the phone number even in messages addressed to other amateurs, if you have it handy. We are depending on volunteers to relay the traffic, and so anything we can do to make the task less burdensome helps to insure that it will be done promptly.

Yes, of course, the delivering station can look up the number in the telephone directory. In a small town that's no problem, in fact there's even a fair chance that the delivering amateur may know the addressee. But if you have to look through 29 columns of Smiths in the New York phone book, check the addresses of all the John Smiths to find out which one it is, maybe find none, nor any John A. Smith through John Z. Smith that corresponds to the address, nor any J. Smith, you have a right to be discouraged. How are you to know that John lives with his mother who married a Johnson after John's father died?

Before the courts broke up Ma Bell, we could get the number from Directory Assistance, and so there was little excuse for not including it in the address of a message. For many years the service was free, but towards the end there was a charge for calling Directory Assistance locally, because too many people did so rather than look up the phone number themselves. It was still free for long-distance numbers, however, and hams therefore had little excuse for not getting the phone numbers for the messages they handled.

When Ma Bell broke up and competition entered the long-distance market, AT&T was obviously not enthusiastic about providing free directory assistance service for competitors, and such calls began to cost money. Now the only recourse we have ordinarily is to ask the number from the party who is having us send the message. If you can't get it that way, you'll have either to refuse the message or send it without the number and hope it ends up in the resourceful hands of a real traffic handler, an amateur who takes pride in being able to deliver the undeliverable. There are still a few such, but their number seems to be decreasing.

Should the area code be included? It's not usually necessary, as most messages will be delivered by a local call. But remember that New York now has two area codes within its local calling area, and some hams have access to WATS lines too. In addition, the area code, like the ZIP code, sometimes is helpful in unscrambling a garbled address. Thus if you have

Say You Saw It In Radiosporting

a message with an address received as Canton, NY, but with a telephone area code 704, you might suspect that it should be Canton, NC, particularly if the ZIP code is 28716.

What should one do in such a case? Correct the address before you relay the message? Ordinarily, no. Such "corrections" are often themselves the cause of undelivered traffic. Far better to relay the message as received and add an operator's note giving the correction. Sometimes a message comes with two possible addresses and you don't know which one is more probable. You can indicate the possibilities in an operator's note: "Not Canton, NY. Could be Canton, NC, or Canton, KY." When you use an operator's note in this way it's a good idea to send a service message to the originating station too, as this may expedite things somewhat if the originator replies with the correct address.

(K4ZN)

HAM RADIO AT IT'S BEST

Jim Sammons, KA1PZV

It is a morning similar to many mornings in October. A slight chill is in the air; breezes rustle the already colorful leaves. Time to get the blood going with a cup of coffee.

The power is already turned on in the ham shack. The Collins KWM-380 is alive with signals from far away lands.

This is the scene at the Belgrade Lakes, Maine, shack of station K1MAN. Day in and day out, seven days a week, fifty two weeks a year, Glenn Baxter makes himself available to help people when they need it most.

Today will be different than most, although this will not be the first time or the last time that someone will need the type of assistance that soon will be rendered by people like Paul, WA6IPF; Chris, WB6RXE; Chuck, KJ4US; and others.

The date is October 1, 1987. The time is 10:58 AM. The phone rings and CBS News in New York is calling to inquire if IARN has any information concerning the earthquake that just ripped through the Los Angeles, California, area 12 minutes ago. CBS is asked if they have called the Earthquake Center in Colorado. The reply is yes, but that they were put on hold.

The IARN - International Amateur Radio Network is immediately activated and a call is put out for information and traffic to or from the Los Angeles area. Immediately there is a contact with Dale, KF6NQ, who confirmed reports of a 6 to 6.1 Richter scale reading in the area south of Los Angeles.

A quick telephone call to assistant net manager, KA1PZV, will have the telephone computer bulletin board system ready to handle emergency traffic. The 10 meter net is activated on 28.475 MHz. for handling local traffic, and the computer BBS system for the central United States operations is activated at Shaker Heights, Ohio, by David, KB1PJ.

Within a span of a few short minutes information is reaching net control. Reports from the area tell of destruction, fires, deaths, and aftershocks. Also, CBS News shares their information with IARN for the next ninety minutes.

Amateur radio is about to perform as it was meant to. The frequency is now alive with radio operators from around the country; some making queries, some asking if they can be of assistance.

Past experience in emergency communications and a well-tuned and oiled emergency communications network is ready to handle the traffic. Preparations for such a situation have been in place for quite a while at the IARN. Tests are made regularly to look for flaws in the system. This time it is not a drill.

Net Control, K1MAN, assumes a very familiar position. Having been through this many times before brings out a calm, in control attitude which is transferred over the air. This brings about a smooth and orderly process of taking traffic, assigning coded numbers for reply, and transmitting the traffic to California for query. As thousands of signals from places like England, Germany, and South America, as well as from every corner of the United States come in all at once, they are all responded to in a caring and orderly fashion until each and every one has been acknowledged. World wide mobilization has been facilitated by contact with IARN directors in the United Kingdom and Germany.

Meanwhile, traffic is being passed to net control from support operators using every means available. Charlie, KC1FK, passes traffic to the 20 meter net which was gathered from the 10 meter net. KF5TC reports that he is standing by on 14.090 MHz. to respond to RTTY communications.

In what seems to be a very short time, the replays are coming in from California. Mexico 1 is OK, Mexico 2 is OK, and so on. Radio operators are given the reply to their queries and many are thanking the net for the help.

This is what it is all about helping without regard to politics or any of the other issues that are so unimportant in our lives. These are the people I want on my side when the chips are down.

It seems to be the same for literally thousands who know what frequency to turn to and where they will get the message through 14.275 MHz. The International Amateur Radio Network.

It is a morning similar to many mornings in October. A slight chill is in the air; breezes rustle the already colorful leaves. Time to get the blood going with a cup of coffee.

(KA1PZV)

PRB-1 HELPS

A federal judge has used PRB-1 to void a Sands Point (Long Island), New York, height limitation as it was unjustly applied to an amateur radio antenna installation. Andrew Bodony, K2LE, had installed an 85 foot crank-up tower at his Sands Point home. The village has an edict which limits the height of accessory buildings and antenna towers to a 25 foot maximum. Sands Point decided that Bodony's tower violated the regulation and charged him with violating the ordinance that requires a permit for his tower. K2LE applied to the zoning board in the hope of getting a variance, but that was denied. Bodony then filed suit against Sands Point in the US District Court for the Eastern District of New York. His suit sought the vacating of the zoning board denial based on the terms of PRB-1 and claimed violation of his constitutional rights.

In granting a partial summary judgment in favor of Bodony, the district court magistrate found PRB-1 to be a proper exercise of the FCC's authority, and based on this, the village of Sands Point was precluded from applying its 25 foot height limitation on accessory buildings to K2LE's antenna installation. The court stated: "The fact that the village ordinance does not prohibit amateur communications is not the answer to a claim on preemption. An absolute limitation of height affects Mr. Bodony's right to full use of his amateur Extra Class license and the license to use his property as an amateur radio station issued by the FCC." The court ruled that the 25 foot ordinance was invalid as applied to an amateur radio antenna/tower installation. K2LE and the zoning board must now meet to negotiate a new antenna height.

This court test represents another use of PRB-1 successfully applied to a local zoning ordinance, but marks the first declaration by a court that such an ordinance was invalid because of it. (Westlink Report)

NEW PRODUCT

BULLET-TESTED SOLAR POWER SUPPLY

AntennasWest announces the introduction of its QRV-SOLAR 23 Solar Power Supply designed specifically to provide mains-independent power for remote repeaters, portable or RV-based stations, and home amateur radio installations. The heart of the system is an easily installed unbreakable and bullet-tested solar panel with unique linear current boosting circuitry. The QRV-SOLAR 23, rated at 23 watts, delivers 1.65 Amperes at 14 volts and increased current at lower voltages.

To power a radio station, the energy generated by the QRV-SOLAR 23 is accumulated in a user supplied storage battery so that it can be drawn off as needed. In this way, constant operating voltage can be maintained day or night, even when large peak currents are drawn while transmitting and small currents are drawn while receiving.

In a typical repeater installation, a single QRV-SOLAR 23 will support normal 24-hour usage while maintaining a full charge on the battery.

In a typical home installation with a standard 100-watt HF transceiver, one QRV-SOLAR 23 generates enough power to support 15 hours per week of normal CW or SSB operation or a full 24 hour contest binge every two weeks. Additional QRV-SOLAR 23 panels can be wired in parallel to generate more power, and different styles and schedules of operation can be supported by choosing a battery with the appropriate capacity for the intended use.

The QRV-SOLAR 23 is available for immediate delivery from AntennasWest at $199.95 postpaid. An optional kit for mounting on vertical masts is available at $29.95.

FCC News

W4GF
Bill Grenfell

7216 Valleycrest Blvd.
Annandale, VA 22003

BY ITS ACTION ON 10/05/87, THE THREE REGION 12 VOLUNTEER EXAMINATION COORDINATORS (VECs) WERE ADVISED BY FCC THAT ACCREDITATION OF ALL VOLUNTEER EXAMINERS (VEs) FOR THE REGION HAD BEEN CANCELLED "...BECAUSE OF WIDESPREAD IRREGULARITIES OCCURRING IN THE VOLUNTEER EXAMINER SYSTEM IN PUERTO RICO." As of early November, an FCC official advised that the reaccreditation process for that area was already under way.

AS OF JANUARY 1, 1988 THE MAXIMUM EXAMINATION FEE VOLUNTEER EXAMINERS MAY CHARGE IS $4.56. This 4.3% raise in the fee was determined by the Consumer Price Index for September 1987.

THE AMENDMENT TO THE COMMUNICATIONS ACT WHICH PERMITS FCC TO DELEGATE EXAMINATIONS FOR AMATEUR OPERATOR LICENSES TO VOLUNTEERS ALSO PROVIDES FOR DELEGATION OF MONITORING AMATEUR ACTIVITIES TO AMATEUR LICENSEES. FCCs Field Operations Bureau has an agreement with the ARRL whereby necessary monitoring tasks are turned over to ARRL's "Amateur Auxiliary to the FCC's Field Operations Bureau" (QST).

FCC HAS PROPOSED TO AMEND ITS PART 15 RULES TO ALLOW UNLICENSED RF DEVICES TO RADIATE AS MUCH AS 50 TO 250 MILLIVOLTS/METER IN ALL OR PART OF THE 902, 2390, 5650 MHz AND THE 24 GHz AMATEUR BANDS. Currently such radiation is not permitted. An FCC engineer advised that the user of a Part 15 device is required to correct any interference caused by the operation of the device. "Part 15 operators have no status. "They will be required to take the device off the air." Original comments on this Docket 87-389 rule making were due 12/04/87 and reply comments by 01/04/88. (W5YI Report).

TWO PETITIONS HAVE BEEN FILED WITH FCC, RM6094 AND RM6095, WHICH REQUEST AMENDMENT OF RULE SECTIONS HAVING TO DO WITH AMATEUR OPERATOR LICENSE EXAMINATION CODE TESTS: Amend Section 97.21(b) "to permit, but not require, telegraphy tests to contain all the letters of the alphabet, numerals 0-9, punctuation and pro signs" and Section 97.29(c) "to provide a telegraphy test period of a minimum of (rather than exactly) five minutes."

EFFECTIVE 12/07/87 FCC AMENDED THE LAST SENTENCE OF RULE SECTION 97.61(c) TO READ: "EMISSION F8E MAY BE TRANSMITTED ON THE 0.35 METER AND SHORTER WAVELENGTH AMATEUR SERVICE BANDS."

EFFECTIVE IMMEDIATELY, THE NEW ADDRESS OF THE FCC NORFOLK, VA FIELD OFFICE IS: Communications Circle, Virginia Beach, VA 23455.

PRESIDENT REAGAN HAS NOMINATED FCC COMMISSIONER MIMI DAWSON TO BE DEPUTY SECRETARY OF TRANSPORTATION. If she is confirmed (by the Senate) for that position, it will leave FCC with only three commissioners out of the normal of five. The remaining commissioners are: Chairman Dennis Patrick, Patricia Dennis and, James Quello. Early action on filling the vacancies is not expected.

FCC HAS REMOVED ITS 10/05/87 CANCELLATION OF ACCREDITATION OF REGION 12 VOLUNTEER EXAMINERS (VEs). The interruption in the Caribbean area testing lasted about two weeks. FCC is reported to have advised the pertinent VECs of nine individuals not eligible for re-appointment. Also a petition was reported filed on 11/23/87 asking that only individuals whose accreditation remains revoked be prohibited from VE program participation. (W5YI Report).

INCLUDED IN FCCs 10/05/87 DOCKET 86-161 ACTION DISMISSING SEVERAL PETITIONS REGARDING NOVICE OPERATOR PRIVILEGES WAS AMENDMENT OF RULE SECTION 87.61 AS FOLLOWS:
The line entry in the table in Section 97.61(a) which shows frequency band 28000-29700 kHz and emission A1A is removed. Section 97.61(d)(3) is revised to read "A station with a Novice or Technician control operator is authorized to transmit only emissions A1A and J3E in frequency subband 28300-28500 kHz." The basic purpose (and result) of Docket 86-161 was expansion of Novice operators privileges.

COMMENT FILED ON PETITIONS RM6094, RM6095 BY THE ARRL SUGGEST FURTHER INFORMAL INVESTIGATION AND POSSIBLE ALTERNATE SOLUTIONS WOULD BE APPROPRIATE PRIOR TO A FORMAL RULEMAKING. The petitions include a request that the code test message not be required to contain every one of the required characters. The League said that it was "not desirable to create a situation in which an examiner can, in accordance with the rules, prepare an examination which includes only a few of the letters, characters, punctuation, and pro signs, thus creating an examination which an unprepared person can easily pass..." (ARRL Letter).

A PINEOLA, NC, AMATEUR'S PETITION TO REDUCE THE FIVE AMATEUR OPERATOR LICENSE CLASSES TO TWO WAS DENIED AND DISMISSED. FCC said it had considered restructuring before and that no new issues were raised (by this petition). (W5YI Report).

FCCs SAN JUAN P.R. OFFICE HAS FINED AN AMATEUR'S FATHER $1,000 FOR OPERATING HIS SON'S AMATEUR STATION WITHOUT A LICENSE. The father was using his son's call sign. His own amateur license was revoked several years ago. (W5YI Report).

WRITTEN EXAMINATIONS ARE SUFFICIENT TO INSURE POTENTIAL OPERATORS WILL OPERATE WITHIN THE RULES, WRITES AN EXTRA CLASS AMATEUR LICENSEE WHO HAS PETITIONED FCC TO ELIMINATE THE CODE TEST REQUIREMENT FOR THE NOVICE AND TECHNICIAN LICENSES. (Filed 10/22/87). (W5YI Report).

REGARDING THE DOCKET 87-14 PROPOSAL TO ALLOCATE THE 220-222 MHz OF THE AMATEUR 220-225 MHz, BAND TO THE LAND MOBILE SERVICES, FCC COMMISSIONER JAMES QUELLO ADVISES: "...AS I HAVE STATED ON NUMEROUS OCCASIONS, THE LAND MOBILE COMMUNITY HAS FAILED TO DEMONSTRATE A NEED FOR ADDITIONAL SPECTRUM. "Indeed the Commission is currently evaluating comments on the need for additional sharing. "In my opinion, the issue of "need", in and of itself, justifies a cautious approach to further Land Mobile sharing."

THE DENIAL OF TWO BOULDER COUNTY, CO, AMATEUR'S APPLICATIONS TO ERECT 125 FOOT TOWERS HAS CAUSED FILING SUIT IN BOTH FEDERAL AND STATE COURTS SEEKING TO OVERTURN THE DECISION. Despite citation of FCCs PRB-1, the public service activities of local amateurs, and other arguments, the County found that amateur antennas should be limited to 35 feet, and that PRB-1 did not apply. Adopted 09/16/85, PRB-1 is FCCs Memorandum Opinion and Order "in the Matter of Federal preemption of state and local regulations pertaining to Amateur radio facilities." (ARRL Letter).

K4GF HAS PETITIONED FCC FOR APPROPRIATE AMENDMENT OF THE RULES TO LIMIT BULLETIN TRANSMISSIONS OF AN AMATEUR STATION TO NOT MORE THAN 10 MINUTES EACH 24 HOUR DAY.

N6ELL HAS PETITIONED FCC TO

PROVIDE TECHNICIAN CLASS OPERATORS WITH ALL HIGH FREQUENCY BAND PRIVILEGES, ON THE BASIS OF A NEED FOR MORE EXPERIENCED OPERATORS.

MICHAEL FITCH, FCCs PRIVATE RADIO BUREAU CHIEF, HAS BEEN APPOINTED SENIOR LEGAL ADVISOR TO FCC CHAIRMAN DENNIS PATRICK. The Bureau's Acting Chief is Ralph Haller, N4RH.

PRESIDENT REAGAN HAS NOMINATED BRADLEY HOLMES TO BE AN FCC COMMISSIONER. He is Chief of the Policy and Rules Division of the Commission's Mass Media Bureau.

THE PRESIDENT HAS NOMINATED WASHINGTON ATTORNEY SUSAN WING TO SUCCEED FCC COMMISSIONER MIMI DAWSON. Dawson has been nominated to be the Deputy Secretary of Transportation. (ARRL Letter).

THE NEW FCC MASS MEDIA BUREAU CHIEF IS ALEX FELKER, N4LF, EXTRA CLASS. Felker succeeds James McKinney who recently accepted a White House position as an assistant to President Reagan. (Westlink Report).

United Parcel Service (UPS) of America has filed comments in support of the FCC Docket 87-14 proposal to allocate the 220-225 MHz band for use by Land Mobile Services. UPS states they have included in their long range plans design and implementation of a nationwide private land mobile network to improve the efficiency of their package delivery service. "The big question is whether the FCC will accept the comments since they were filed six months late." A Report and Order on Docket 87-14 is forecast to be released on 03/31/88. (W5YI).

During February, the ARRL Interference Reporting System (AIRS) received 279 reports of non-amateur-to-amateur interference and forwarded appropriate cases to FCC's Treaty Branch, Washington, DC. Included in these reports were continuing problems with commercial fishing beacons on 160 m and non-amateur F1B transmissions on 80 m. (ARRL Letter)

FCC's Docket 97-389 proposes to place radiation limits on a proliferation of low-power radiating devices which, over the years have been placed in operation without the need of FCC licensing. It proposes amendment of its Part 15 Rules "...to classify RF devices into two broad categories: intentional radiators such as hand-held transceivers, cordless phones. and garage door openers; and unintentional radiators such as receivers, VCRs and computers. "A third category of incidental radiation devices would remain under present rules which state: if such equipment causes interference, it is the operator's responsibility to eliminate it." The unintentional radiator limits would range from 30 microvolts per meter at 1.7 MHz to 500 mV/m at above 960 MHz. The ARRL comments are to emphasize the following points: "Amateur frequencies are not to be utilized by intentional radiator devices; permitted field strengths for unintentional radiators should not exceed present maximums; and rules should be enacted requiring RFI resolution information, including identification of a manufacturer's representative, to be included in the equipment user's manual. (ARRL Letter)

Beverly Baker has been appointed Deputy Chief of the FCC Private Radio Bureau. The Newly appointed PRB Chief is Ralph Haller, N4RH. (ARRL Letter)

An increasing number of candidates who have passed the novice exam requirements are bringing their original Form 610 completed by their examiners to a VEC test station. "This is in violation of Rule Section 97.28(g) which states 'within ten days of the administration of a successful examination for the Novice Class operator license, the examiner shall submit the candidates application to: FCC, Gettysburg, PA 17325." A Technician candidate must have proof (license or copy) he has passed the Novice exam elements administered by the same three VE's who are administering the Tech. examination (FCC)

The Cerritos, CA FCC office telephone number has been changed to: 213 809-2096 (Public number) and 213 865-0598 (Recorded information). The address is: 18000 Studebaker Road, Room 660, Cerritos, CA 90701. (ARRL Letter)

"Gauging the success of Novice Enhancement depends upon what objective you had in mind,..." If your objective was to keep people from dropping out of the service and to move up from Novice to Technician ...which I think was the major FCC trust of the Rulemaking ...then Novice Enhancement is successful. "For those that thought that this was going to bring lots of new people ...Well, I don't think that it is working." (John Johnston, W3BE, Chief of the FCC's Personal Radio Branch). "Johnston also said that many times information published or circulated concerning amateur radio growth - or lack of it - is not supported by the actual licensing numbers." (W5YI Report). "...a large percentage of those in primary amateur training classes appear to be bypassing the Novice in favor of going directly to the Technician license. In numerous cases, instructors and students alike feel that the difficulty level between the Novice and Technician is minimal and the code element is the same. With overall testing more easily available...going directly to Technician is an obvious route. "This would...explain the surge in the ...number of...Techs contained in the FCC figures." (Westlink Report)

When asked about the progress of FCC's PRB-3, Privatization of the assignment of Amateur Radio station call signs, PR Branch Chief Johnston said: "...There are still a lot of approvals and reviews ahead yet. "The threshold decision is whether we want to do it or not. "One of the key things is whether or not it is going to cost us any resources..." Thirteen people have proposed to issue amateur call sign in the private sector..." (W5YI)

(W4GF)

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CONTEST RULES

FRANK ANZALONE, W1WY

CQ Magazine

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Calendar of Events

May	6-8	Sangamon Special Event
May	14-15	ARI "Volta" RTTY Contest
May	14-15	USSR CQ-M Contest
May	14-15	MARAC County Hunters SSB
May	14-15	Utah QSO Party
May	14-16	Michigan QSO Party
May	21-22	ARI International Contest
May	21-22	World Telecomm. Contest
May	28	ARCI QRP CW Sprint
May	**28-29**	**CQ WW WPX CW Contest**
May	28-29	UBA SWL CW Trophy
June	4	YLRL Novice/Tech. Day
June	4-5	RSGB Field Day
June	4-6	ANARTS RTTY Contest
June	11-12	So. American CW Contest
June	11-13	ARRL VHF QSO Party
June	18-19	All Asian Phone Contest
June	18-19	SMIRK (6M.) Party
June	18-19	RCV Valencia Contest
June	18-19	NINE Land QSO Party
June	25-26	ARRL Field Day
July	1	Canada Day Contest
July	2-3	Colorado 6 Meter Net
July	9-10	IARU HF World Champ.
July	10	ARCI QRP CW Sprint
July	**16-17**	**CQ WW WPX VHF Contest**
July	16-17	AGCW-DL QRP CW Contest
July	30-31	Florida QSO Party
Aug.	6	YLRL YL/OM SSB Sprint
Aug.	6-7	ARRL UHF Contest
Aug.	14	ARCI QRP SSB Sprint
Aug.	27-28	All Asian CW Contest
Sept.	7-9	YLRL "Howdy" Days
Sept.	**24-25**	**CQ WW DX RTTY Contest**
Sept.	25-26	Classic Homebrew Exchange
Oct.	8-9	Pennsylvania QSO Party
Oct.	**29-30**	**CQ WW DX Phone Contest**
Nov.	**26-27**	**CQ WW DX CW Contest**

USSR CQ-M Contest

2100Z Sat. to 2100Z Sun., May 14–15

Keep in mind that this is a world-wide-type contest, so do not limit your operation to the USSR only. Contacts may be made on CW or SSB, 3.5 through 28 MHz. The same station may be worked on each band, but not both modes for QSO and multiplier credit. Contacts via Oscar count as an extra band if made on UHF.

Classes: (A) Single operator, single band. (B) Single operator, all band. (C) Multi-operator, single transmitter, all band only. (D) SWL.

Exchange: RS(T) plus a three-figure QSO number. USSR stations add the number of their region (oblast) to their report.

Points: Contacts between stations on the same continent one point; different continents three points. Own country may be worked for multiplier credit but no QSO points.

Multiplier: Is determined by the number of countries worked on each band. The USSR "R-150-S" list is the standard, which essentially is the same as our DXCC, plus the following oblasts: 002, 013, 014, 056, 084-5-6-7-8-9, 090-1-2-3-4-5-6-7-8, 159, and UA1 Novaya Zemlya, UA0Kuril Is., UA0New Siberian Is.

Final Score: Total QSO points from all bands times the country/oblast multiplier from each band.

The SWL's get one point for reporting one station in the exchange, and three points if both stations are reported.

Awards: A large selection of trophies, medals, and badges in all classes for overseas winners. Badges to all entries contacting at least 10 USSR stations.

Contest contacts may be credited for USSR awards in lieu of QSL cards if request is made with entry (R-150-S, R-100-0, W-100-U, R-15-R, R-6-K, R-10-R).

Mailing deadline is July 1st to: Krenkel Central Radio Club, CQ-M Contest Committee, P.O. Box 88, Moscow, USSR.

ARI International Contest

1600Z Sat. to 1600Z Sun., May 21–22

It's the world working the Italian stations in this one, including San Marino, Vatican, and SMOM.

Classes: Single operator, CW, SSB, or both modes. Multi-operator, single transmitter both modes, and SWL.

Bands: All six bands 1.8–28 MHz, 1830–1850 kHz on 160, and 3613–3627, 3647–3667 kHz on 80 for Italian stations. Band changes are not allowed for 10 minutes.

Exchange: RS(T) plus a QSO number starting with 001. Italian stations will include two letters indentifying their province.

Scoring: Europeans earn 2 points per QSO; others 4 points.

Multiplier: Each province and T7, HV, and SMOM worked on each band.

Final Score: Total QSO points times the sum of the multiplier from each band. A declared score exceeding more than 5% of the actual score means disqualification.

Awards: Certificates to the top-scoring stations in each country in each class. Special awards to the five leading stations in each class.

Use a separate log sheet for each band, and a summary sheet showing the scoring and other essential information. Include your name and address in block letters.

The Worked All Italian Provinces award is issued to stations working at least 60 different provinces. Application can be made by including a separate list of provinces worked in the contest with your log. QSL cards are not required. Include 10 IRCs to cover cost.

Mailing deadline is 40 days after end of contest to: ARI Contest Manager, via Scarlatti 31, 20124 Milano, Italy.

World Telecomm. Contest

0000Z Sat. to 2400Z Sun., May 21–22

This world-wide activity is sponsored by the LABRE in celebration of the World Telecommunication Day, May 17th.

Phone and CW are separate contests and require separate logs. Use all six bands 10–160 meters. (No WARC bands.)

Categories: Single operator, all bands. Multi-operator, single transmitter, all band. (Must remain on same band at least 10 minutes before changing to another band.)

Exchange: RS(T) plus ITU Zone. (See ITU Zone chart.)

Points: Contacts between stations on the same continent but different countries are worth 1 point on 10/15/20 meters, 2 points on 40/80/160 meters. Contacts between stations on different continents are worth 2 points on 10/15/20 meters, 4 points on 40/80/160 meters.

Contacts between stations in the same country are permitted for zone multiplier only, no QSO points.

The same station may be worked on each band for QSO and multiplier credit. The WAC and DXCC lists are the standards.

Multiplier: The 75 geographical ITU Zones worked on each band.

Final Score: Total QSO points from all bands times the sum of ITU Zones worked on each band.

Awards: Certificates to the first-place winners in each category in each country; second- and third-place awards will also be considered. A handsome plaque goes to the country with the highest aggregate score determined by the top 5 single operator scores plus the top multi-operator score of that country, both on phone and CW. The plaque remains in the possession of the national amateur radio association of that country affiliated with the IARU.

Use a separate sheet for each band and indicate the zone multiplier in a separate column only the first time it is worked. Logs must be checked for duplicate contacts, correct QSO points, and multipliers.

The usual disqualification rules are in effect—regulations in the country of operation and the contest, excessive duplicate contacts, and unsportsmanlike conduct.

Include a summary sheet showing the scoring, a signed declaration that all rules have been observed, and your name and address in block letters.

Mailing deadline is July 31st to: LABRE WTD Contest Committee, P.O. Box 07-0004, 70 000 - Brasilia - DF, Brazil.

ARCI QRP CW Sprint

2000–2400 Local Time, Sat., May 28

This one is known as "The Hoot-Owl CW Sprint," and is a real shorty, only 4 hours. Rules have been modified and are easier to follow than last year's.

Exchange: RST and state, province, or country. ARCI members will include their membership number, non-members their power output.

Points: Contacts with members 5 points, non-members 2 points, 4 points if in a different continent.

Multiplier: States, VE provinces, and DX countries worked on each band.

Power Multiplier: 4 to 5 watts output × 2, 3 to 4 watts output × 4, 2 to 3 watts output × 6, 1 to 2 watts output × 8, less than 1 watt × 10. Over 5 watts check log only.

Power Supply Multiplier: Battery power × 1.5, solar/natural, or battery charge by s/n × 2.

Final Score: Total QSO points × QTH multiplier × power multiplier × power supplier multiplier.

Frequencies: 1810, 3560, 3710, 7040, 7110, 14060, 21060, 21110, 28060, 28110, 50060 kHz.

Awards: Certificates to the top three overall scores, and to the top scorers in each state, province, and country with at least two or more entries.

Use a separate sheet for each band and a summary sheet showing the scoring and other essential information. Sample log forms are available from K5VOL. A copy of the results is also available. Include a large SASE for either one.

Mailing deadline is 30 days following the end of the contest to: Red Reynolds, K5VOL, 835 Surryse Road, Lake Zurich, IL 60047.

UBA SWL CW Trophy

0000Z Sat. to 2400Z Sun., May 28–29

This SWL activity was purposely scheduled on the same weekend as our *CQ* WPX CW Contest to take advantage of the activity generated by that contest.

Rules are the same as those used in the SSB section and were published in the March issue of this column.

Logs must be postmarked no later than June 25th and go to: Marc Domen, ONL 6945, B-2200, Antwerpen (Borgerhout), Belgium.

CQ WW WPX CW Contest

0000Z Sat. to 2400Z Sun., May 28–29

Just a reminder, as if you needed one, that our WW WPX CW Contest is coming up the last weekend of this month. Rules and scoring are the same as for the SSB section last March and were given in detail in the January issue and briefly reviewed in the March Calendar.

Following are a few items to keep in mind:

Par. I—Only 30 hours out of the 40-hour contest period may be used by single operator stations. Off times must be at least 60 minutes long. Multi-operator stations can use the full 48 hours.

Par. IV—Multi-operator, single transmitter. Only one transmitter and one band permitted during the same time period (defined as 10 minutes). No QSYing to another band to pick up a new multiplier.

Par. VI—QSO points on the three lower bands (7, 3.5, and 1.8 MHz) are worth double those for contacts on 28, 21, and 14 MHz. Own country may be worked for multiplier credit only (making U.S. contacts very attractive).

Par. VII—The prefix multiplier is counted once only, not once on each band. Definition of a prefix is clearly spelled out in the rules. The WPX Awards list cannot be used as a guide in the WPX Contest.

Stations operating in a call area other than that of the call sign are required to indicate the area of operation. The portable prefix is the multiplier (i.e., W8IMZ/4 counts as W4; N8BJQ/KP2 counts as KP2).

Par. IX—Eligibility for the many plaques remains at two years except for categories as indicated.

Mailing deadline is July 10th, but will be extended for rare isolated areas. Be sure to indicate CW on the envelope.

All logs go to: *CQ* Magazine, WPX Contest, 76 N. Broadway, Hicksville, NY 11801 U.S.A. Questions pertaining to the WPX Contest can be sent to: WPX Contest Director, Steve Bolia, N8BJQ, 4121 Gardenview Dr., Beavercreek, OH 45431.

YLRL Novice/Tech Day

1700Z to 2100Z Sat., June 4

This activity was organized a year ago by the YLRL to promote activity for the YL Novices and Technicians. Operation will be for YLs, on CW only.

Exchange: Station worked, RST, name, QTH, and class of license.

Scoring: Three points for each YL Novice/Tech worked. Two points for YL General or Advanced class, and one point for YL Extra class.

The same station may be worked on each band for credit. Score each band separately. The sum of your score on each band is your final score.

Frequencies: 3730, 7130, 21130, and 28130 MHz, plus or minus 10 kHz. Maximum power of 200 watts.

Awards: YLRL postcards to the top scoring Novice/Tech and General class or higher YL.

Submit original log only, which must be signed by the station operator. Include a summary sheet showing the scoring and other essential information, including your license class and address.

All entries must be received by July 7th and go to: Carol Shrader, 4744 Thoroughgood Dr., Virginia Beach, VA 23455.

RSGB National Field Day

1500 to 1500Z Sat.–Sun., June 4–5

Activity for this CW-only Field Day is not confined to Great Britain. You will also hear some portable activity out of Germany and Switzerland.

Although overseas stations are not directly eligible, they are invited to participate and submit a report of the stations worked.

A certificate will be awarded to the overseas station in each continent that shows the most contacts. Send your logs to: RSGB HF Contest Committee, P.O. Box 73, Lichfield, Staffs., WS13 6UJ England.

ARRL VHF Contest

1800–0300Z Sat.–Mon., June 11–13

Action will be found on the 50, 144, 220, and 420 MHz bands, and even higher up in the spectrum.

The scoring varies with the different bands used, and there are certain requirements and restrictions in the rules. Working WAS on 6 meters is a possibility. Complete rules will be found in the May issue of *QST*.

I strongly recommend that you write to ARRL Headquarters for official forms. Include an SASE with your request to: ARRL VHF Contest, 225 Main St., Newington, CT 06111.

South American CW Contest

1500Z Sat. to 1500Z Sun., June 11–12

Sponsored by *Electronica Popular* magazine of Brazil, and supervised by the Grupo Argentino de CW of Buenos Aires, this is an annual affair the second weekend of June.

It's still a CW contest only, but the format and scoring have been changed. Now you can work stations in other continents as well as South Americans. Use all 6 bands, 1.8 through 28 MHz.

Classes: Single operator both single and all band, multi-operator, single transmitter, all band only and SWL.

Exchange: RST plus a QSO number starting with 001.

Points: Contacts with stations in own country zero points but okay for multiplier credit. Other countries but same continent, 2 points. Countries in other continents, 4 points. Contacts with South American stations, 8 points. (For stations outside of S.A.)

Multiplier: Different countries (DXCC list) plus the different South American prefixes worked on each band.

Final Score: Total QSO points times the sum total multipliers from each band.

Awards: Certificates to the three top-scoring stations in each country in each class.

Use a separate log sheet for each band and a summary sheet showing the scoring and other essential information. Include an SAE and one IRC for a copy of results.

Logs must be received no later than August 31st and go to: WWSA Contest Committee, P.O. Box 18003, 20772 Rio de Janeiro, RJ, Brasil.

All Asian DX Contest

Phone: June 18–19 C.W.: Aug. 27–28
0000Z Sat. to 2400Z Sun.

This is the 29th year of this activity sponsored by the JARL. The exchange is between Asian countries and the rest of the world.

Classifications: Single operator, both single and all band. Multi-operator, both single and multi-transmitter, all band only (one signal per band only).

Club stations are classified as multi-operator and each operator will give his age in the exchange.

Exchange: For OM's—RS(T) plus age of operator. For YL's—RS(T) and 00.

Scoring: 3 points for contacts on 160; 2 points for contacts on 80; 1 point on all other bands. (KA contacts do not count.)

Multiplier: For Asians the multiplier is determined by the number of different countries worked on each band (DXCC list). For non-Asians it is determined by the number of different Asian prefixes worked on each band (*CQ* WPX list).

Final Score: Total QSO points from all bands times the sum of the multiplier from each band.

Keep in mind that non-Asians use Asian prefixes as their multiplier, not countries.

Note: JD1 stations on Ogasawara (Bonin and Volcano) are in Asia, and JD1 stations on Minamitori Shima (Marcus) are in Oceania.

Awards: Certificates to the top scorers, both phone and CW, in each country and each U.S. call area. In each class, both single band and all band, up to the fifth rank, depending on the number of returns. Medals to the all-band continental leaders, both single and multi-operator.

Logs: Keep all times in GMT. Use a separate column for the country or prefix multiplier, and fill in only the first time it is worked. Use a separate log for each band. Include a summary sheet showing the scoring and other information, and a signed declaration that all rules and regulations have been observed.

There is a strict disqualification clause for taking credit for duplicate contacts in excess of 2% of the total on each band, as well as other infractions.

Logs must be received no later than Sept. 30th for the Phone section, and Nov. 30th for the CW section. They go to: JARL Contest Committee, P.O. Box 377, Tokyo Central, Japan.

Asian Country List: A4; A5; A6; A7; A9; AP; BV; BY; CR9; EP; HL/HM; HS; HZ/7Z; JA-JR; JD1; JT; JY; OD; S2, TA; UA/UK/UV/UW9-0; UD6; UK6C, D, K; UF6/UK6F, O, Q, V; UG/UK6G; UH8/UK8H; UI8/UK8A, G, I, L, O, T, Z; UJ8/UK8J, R; UL7/UK7; UM8/UK8M, N; VS6; VS9M/8Q; VU; VU (Andaman & Nicobar); VU (Laccadive); XU; XV/3W; XW; XZ; YA; YI; YK; ZC4/5B4; IS (Spratly); 4S; 4W; 4X/4Z; 70 (S. Yemen); 70 (Kamaran); 8Z4; 9K; 9M2; 9N; 9V; (Abu Ail).

SMIRK (6 Meter) QSO Party

0000Z Sat. to 2400Z Sun., June 18–19

This is the 13th annual QSO party sponsored by the Six Meter International Radio Klub (SMIRK). The party is open to all, members and non-members, but it seems to be geared for membership participation.

Cross-band contacts are not permitted and competition is for single-operator only. Operation, of course, is confined to the 6 meter band.

Exchange: SMIRK number and grid square.

Scoring: Two points for each SMIRK contact; 1 point with non-members. Multiply total QSO points by number of different grid squares worked.

Awards: Certificates for winning scores in each ARRL section, foreign state, province, prefecture, United Kingdom shire/county/region, and country.

The new official log forms must be used. A large SASE to KA0NNO will get you detailed information and the new log forms.

It is strongly recommended that all contacts between stations in the contiguous 48 states take place above 50.125. Only contacts with stations outside the 48 states should take place below 50.125. This will help eliminate QRM to overseas stations.

Send your entries no later than July 6th to: Lisa Lowell, KA0NNO, P.O. Box 547, Hugo, CO 80821.

ARRL Field Day

1800–2100Z Sat.–Sun., June 25–26

Without a doubt this activity generates more stateside participation in manpower than any other amateur radio activity. It is mostly a club-organized activity, and requires that the coordinator be knowledgeable about what is required.

Entries are separated into many classes. Rules and requirements are quite extensive and will be found in the May issue of *QST*. It is advisable that you read them thoroughly.

Official log forms are a must. Direct your request with a large SASE to the ARRL, ARRL Field Day, 225 Main St., Newington, CT 06111.

Canada Day Contest

0000 to 2400Z Friday, July 1

Sponsored by the Canadian Amateur Radio Federation, this contest is open to all amateurs. Everyone works everyone on both sides of the border. Rules have been restructured to quote, "make for a better contest."

Classes: Single operator—All Band, CW, SSB, and both modes. Single band, CW/SSB. Multi-operator—Single transmitter and multi-transmitter, all band only.

Exchange: Name, RS(T), QSO no., province, territory, state, or country. Multi-multi stations use separate QSO no. for each band.

Scoring: 10 points for each Canadian contact, 4 points for contacts with stations outside of Canada, and 20 points can be claimed for working each official station using the VCA or TCA suffix.

Multiplier: Each Canadian province/territory worked on each band and mode.

Frequencies: 1825/75, 3525/3775, 7075/70/155, 14025/150, 21025/250, 28025/500.

Awards: Certificates to winning stations in each class, in each province/territory, DX country, and each US call area. Trophies for top scorers, all band, CW, SSB, and both modes. Single band 14 and 7 MHz. And multi-single and multi-multi stations.

Include a summary sheet with your entry showing the scoring, etc., and the usual signed declaration that all rules and regulations have been observed.

Mailing deadline is Jan. 30th to: CARF Contest, Att: John Clarke, VE1CCM, 16 Keefe Ave., Sydney, Nova Scotia, B1R 2C7 Canada.

Colorado 6 Meter Net Activity

1400Z Sat. to 0300Z Sun., July 2–3

All stations interested in making contacts on 50 MHz are invited to join this activity.

Exchange: Call, name, grid square, and S.I.N. number if any.

Scoring: Contacts with S.I.N. members count 3 points, with non-members 2 points. Multiply QSO points by number of states worked.

Awards: Certificates to first- and second-place winners. All entries will receive results of the scoring. A large SASE would be appreciated.

Mailing deadline is July 31st to: Richard C. Johnk, N0AKI, 8529 Fenton St., Arvada, CO 80003.

1987 European CW Contest
North America Results

USA All Band

K1EA	619,854
KZ2S	567,084
N6AR	497,276
K3IPK	362,880
N2GUV	335,342
KC1F	261,810
K4YXZ	130,674
N3BNA	122,200
K1XM	98,371
KA1DWX	93,576
K8HVT	86,618
KW2J	85,936
N8BC	81,529
K5KLA	72,072
W5WMU	53,572
W4NTI	46,512
WB3JRU	44,634
KM6B	40,656
K3TX	33,048
K4JLD/1	27,336
K2OF	20,928
K1CLN	23,634
K9BG	22,960
W1IHN	21,230
W4YN	18,480
KE0Y	18,240
W2DW	12,144
KQ1F	11,692
N2AZS	6,490
W2KTF	6,283
W5NR	5,508
WB2DND	2,915

Dom. Rep.

HI8LC	27,459

Panama

HP1AC	2,173

Costa Rica

TI8RC	4,437

Canada

VO1QU	209,568
VO1AW	11,778

USA High Bands (14, 21, 28 MHz)

K2SS	125,664
WC4E	52,800
N9AC	52,416
K5MK	21,816
NX7K	16,440
W3ARK	12,900
W6BIP	12,480
N6JV	8,976
N4JF	8,372
N6EK	5,040
K4FW/8	3,990
WA2UDT	3,990
K8CV	2,548
KA3OPB	1,632
K6NA	1,224
N6AA	1,128
N6JM	1,008
N7HJM	494
W1OPJ	462

Canada

VE2LJ	75,600
VE1ACK	198

USA Multi-Op.

W3GG	385,382

World-Wide Scores
All Band
K1EA was #6 and KZ2S was #9

High Bands
K2SS was #6

Certificate winners are in boldface.

1987 European Phone Contest
North American Results

All Band U.S.A.

KM1H	809,952
N6AR	199,348
K4YKZ	81,300
K1CLN	72,141
K3IPK	61,560
N2VW	25,833
KA1DWY	18,450
WA2UDT	18,147
WK4F	9,576
W1LQQ	6,696
N4UH	6,426
N3BNA	420

Antigua

DF1EQ/V2A	111,748

Canada

VE8RCS	137,020
VE1CBF	26,362
VO1AW	14,418

Dom. Rep.

HI8LC	36,252

Nicaragua

YN3EO	12,218

High Bands 14, 21, 28 MHz U.S.A.

W2FCR	72,592
AB8K	67,496
W3ARK	17,292
K5MK	15,708
K6SVL	8,650
K4FPF	6,762
K3TX	5,040
N4JF	4,576
W2GKZ	4,256
KE7KF	1,824
KA1DSQ	1,056
K6NA	84

Canada

VO1QU	152,640

Costa Rica

TI2LTA	185,472

Certificate winners are in boldface. There were no multi-op entries.

1987 ARI Contest Results
North America, Single Operator

USA CW/SSB

N8DE	51,688
W3ARK	33,728
KA1DWX	27,600
K8PYD	26,904
W3BGN	10,976
WA2UDT	9,916
W5EIJ	2,240

USA CW

N6JM	560
W4YN	320

USA SSB

I4LEC/W4	177,548
NJ0C	12,160
WA4QMQ	9,360
WK4F	8,208
WB4UBD	7,480
W4KME	4,000
N5IET	2,100

Canada SSB

VE4RP	5,488

Canada CW

VE3XK	15,308

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Antenna traps designed quickly and accurately with your computer. Send $10 for Apple or IBM-PC program disk and manual, SASE for more information. W1HUE, 119-7 Buckland St., Plantsville, CT 06479

K1BV DX Awards Directory. Complete rules for over 680 certificates. 170 pages, $14.00 postpaid US/VE. $17.00 others Air Mail. Ted Melinosky, 525 Foster Street, South Windsor, CT 06074-2936

Teachers and students interested in talking to other teachers and students via ham radio, please contact Karen, KB6DDQ, Box 925, Frazier Park, CA 93225

Used Gear - send for up to date list with SASE. Omni D-Series with digital readout & 260 PS, $569.00. Omni D-Series analog version with PS, $ 444.00. Drake TR7, PS7 XCVR "Loaded", $729.00. We buy, sell, trade and consign, call (215) 271-8898 or write Tony Musero, K3UKW, 1609 So Isemingen St., Phila, PA 19148

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QSL DIRECT?? Use stamps instead of expensive IRC's and save on your postage costs. List of countries available sent for large SASE. DXers Postal Service, PO Box 8851, Trenton, NJ 08650. WP2ADC, Call 24 Hrs. (609) 586-0850

SWL RECEIVERS: Sony ICF-2010 PLL tuning, scan, AM, FM, AIR bands, 100 kHz to 30 MHz, new sealed boxes, $300. SWL Nippon 9 band world receiver MR996, new, ship for $45.00. Ike, N3IK, (215) 681-5042

RACAL RECEIVER RA6790, with case. Sunair 1500W amplifier GSL-1900 Alpha. Need schematic/manual for Collins 32V3 transmitter. Richard Gresko, VE2DVI, (514) 227-5355

BACK ISSUES OF RADIOSPORTING are still available 1984: NOV, DEC, 1985: JAN, FEB, MAR, APR, MAY/JUN, JUL, AUG, SEP, OCT, NOV, DEC, 1986: JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG/SEP, (OCT/NOV) DEC, 1987: JAN, FEB, MAR/APR, MAY, (6,7,8) SEP, OCT/NOV Price includes mailing, cost $2 per issue. Complete your collection.

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CONTEST FORMS FOR IRSA WRC, CQ WW, CQ WPX AND CAN-AM CONTESTS. Also application sheet and form kit for DXCA award. Each set includes summary sheet, multiplier check sheet, dupe sheets for Europe, VE/W and rest of the world, log sheets with 100 QSOs per page as described in RADIOSPORTING Dec.84. Send business size SAE and $1 per set to: IRSA, Box 282, Pine Brook, NJ 07058

Collector seeks keys, bugs, telegraph instruments, parts and related literature. Will purchase or trade like kind. Warren, K2UVV, 46A Mile Rd, Suffern, NY 10901, (914) 357-2167

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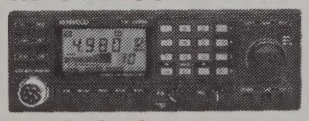

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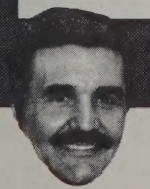

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We welcome articles and contributions from our readers. It is your publication. Material can be submitted on diskettes, via MODEM or on paper.

DXCA

DX CENTURION AWARD

GENERAL RULES

The DXCA program is sponsored by the International Radiosport Association and RADIOSPORTING magazine for all licensed radio amateurs and short wave listeners all over the world.

All contacts must be made from the same country. Maritime, aeronautical and land mobile stations may operate from anywhere in the world.

Only contacts made after January 1, 1986 are valid for the basic award.

Awards for club stations will be issued to the club and not to an individual operator.

All amateur bands for which an applicant holds a valid license may be used, including new WARC bands.

QSL cards for the awards must be in the possession of the applicant. The application for the award must be certified by two licensed amateurs with a statement that the list of contacts and QSL cards agree. Any altering or forging will result in disqualification. The IRSA Awards Committee has the right to request the QSL cards for verification.

The ARRL DXCC countries list criteria will be used in determining what constitutes a "country." A particular operation or DXpedition does not have to be recognized by the ARRL in order to count for DXCA (i.e. Burma). As long as there is a reasonable proof that the operation took place as claimed, it will be recognized. If it is found in the future that certain operations were not legitimate, the credit for that operation will be removed from all applications claiming the operation in question.

All officially allowed modes of communication may be used: CW, SSB, AM, FM, RTTY, Packet, SSTV and Mixed mode. Also separate categories will be recognized for satellite contacts, QRP, QRPP and Mobile stations. All contacts must be two way, using the same mode, except for the mixed mode. A valid contact must consist of a call sign and signal report exchange.

All claimed contacts must be made by the operators themselves, without the help of a third party, i.e. list or net operation. Non interference with commercial services on shared bands, fair play and good sportsmanship are required of all DXCA holders and applicants. In the event of specific objections relative to continued poor operating ethics, an individual may be disqualified from the DXCA by action of the DXCA Awards Committee.

The application must contain a station's callsign, name and address, type of award applied for and list of contacts. The list of contacts and any QSL cards in possession must include: callsign, signal report received, band, date, time GMT and two way mode.

Callsigns of all certificate holders will be published in RADIOSPORTING magazine and a DXCA Honor Roll will be published twice a year.

The first twenty winners of monoband and multi band awards will receive a free one year subscription to RADIOSPORTING Magazine.

The decisions of the IRSA Awards Committee are final.

SINGLE BAND DXCA

Single band DX Century Award is issued for working or hearing a minimum of 100 countries on one band. Endorsement stickers are issued in increments of 20 countries up to 240, increments of 10 up to 300 and increments of 5 above 300 countries.

Contacts made on all amateur bands (1.8, 3.5, 7, 10, 14, 18, 21, 24, 28 MHz and all VHF/UHF bands), as permitted by the license in the country of the applicant, are eligible for award. All contacts must be made on one band. No crossband contacts are allowed.

The basic award will be issued for a minimum of 100 countries confirmed on one band. A numbered endorsement stickers will be issued for each mode (CW, SSB, AM, FM, RTTY, Packet, SSTV and Mixed) and category (satellite contacts, QRP, QRPP and Mobile stations).

The holders of Single Band DXCA are allowed to use the abbreviation signifying the type of award and country total on their QSL cards.

Example: "1.8 DXCA" or "1.8CW DXCA 124/265" which means: Monoband 1.8 MHz, all CW mode, DXCA, 124 countries confirmed since Jan. 1, 1986/ number of countries worked.

MULTI BAND DXCA

6B DXCA, 7B DXCA, etc. awards will be issued for confirmations from a minimum of 100 countries on each of at least 6 bands. A separate awards will be issued for working 100 countries on 7, 8, or more bands.

Also a cumulative total will be kept for an overall countries count similar to the monoband awards. i.e. 7B DXCA (856/1265), which signifies that station has confirmed a minimum of 100 countries on each of 7 bands and the total count is 856 countries since Jan. 1, 1986 and 1265 countries on 7 bands worked. A numbered stickers will be issued for each mode and category.

Stations having monoband DXCA need not submit the list of contacts already credited for monoband awards. It is sufficient to mention the certificate type and number, and only an additional list of contacts has to be submitted.

Stickers for increments of 100 countries will be issued from 600 to 2000, increments of 50, from 2000 and up.

The Honor Roll - listing of top contenders and latest changes in standings will be published in RADIOSPORTING magazine twice a year.

The fee for each award is US $5 or 10 IRCs, and each endorsement sticker is $2 or 4 IRCs. Engraved Honor Roll plaques will cost $25.

A set of application forms and countries list for DXCA awards are available from IRSA for SAE and 3 IRCs.

All applications to be sent to IRSA - DXCA, Box 282, Pine Brook, NJ, 07058, USA

Radiosporting

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